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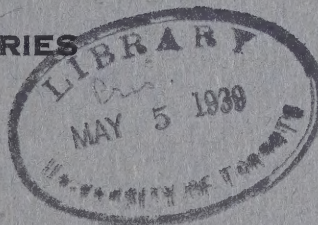
**A FACT A DAY ABOUT CANADA**

FROM THE

**DOMINION BUREAU OF STATISTICS**

**JANUARY 1939**

**FIFTH SERIES**



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James Muir,  
Editor.



## A Fact a Day about Canada

from the

Dominion Bureau of Statistics

No. 93. Sun. Jan. 1, 1939 -- January

January, the first month of the year, was held sacred by the Romans to Janus, from whom it derived its name, and was added to the calendar along with February by Newman, but it was not until the 18th century that January was universally adopted by European nations as the first month of the year, although the Romans considered it as such as far back as 251 B. C.

Janus was one of the most ancient Latin divinities. He was the spirit of the doorway, invoked at both entrance and exit, and for this reason each head of a Roman household was his "flamen", so to speak -- assuming the role of a priest devoted to his particular worship and service, and there was only one real priest of his worship, the Rex Sacrorum. Since the door was the entrance of the house, Janus came to be revered as the divinity presiding over all beginnings and was the first invoked in both public and private prayers. As the spirit of openings, Janus was the god under whose care were all Januae, or gates, in Rome. Above all, he it was under whose protection was the archway out of which the army marched to war and by which it returned. Janus, the god of the gate that opened both ways, was therefore represented by an image having a double head that looked both ways.

The birthstone for January is the garnet, which we think of as a deep, transparent, glowing red gem, but there are also green and yellow varieties. The name comes from the Latin word "granatus" meaning seed-like, as the smaller crystals embedded in the mass of rock resemble seeds.

In early times garnets were used as bullets by Asiatic peoples, in the superstition that their glowing colour caused them to inflict a deadlier wound. It has been mentioned, too, in accounts of Southwest Indian Wars in America. Through the centuries it has also been used by travellers as an amulet or charm against accidents, just as some people today carry about a rabbit's foot. It has been a tradition with the Persians to set their sovereign's image in garnets, so that it is often regarded as a royal stone. Garnets are extremely tough and durable, and are not as expensive as other gems.

It is interesting to remember in connection with the first of January that the most important shipping transfer in Canadian history took place January 1, 1916. The Canadian Pacific ocean services on that day took over 16 ships of the Allan line, the pioneer steamship company of the St. Lawrence.

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No. 94. Mon. Jan. 2, 1939 -- Sugar

Most Canadians are familiar with the fact that practically speaking all of our raw sugar imports come from British Empire countries. That sugar is refined in the Dominion by an industry which received a great impetus during the years of the Great War. There is a world of romance in knowing that the sugar we put in our tea may have come from the charming Fiji Islands, British Guiana, the West Indies, South Africa or Australia. A very large proportion of the sugar which we use comes from the sugar cane, although there is a growing utilization of the beet sugar production.

India and Arabia were the only known sugar producing countries of the ancient



world. Early classical writers referred to sugar as Indian salt or "honey contained in the reed." The cane was later carried into Egypt and China. The enterprising Egyptians taught the world how to refine sugar through the use of ashes. A later method of refining was to dissolve the raw sugar in lime water and then add the blood of bullocks. The blood coagulated and drew out the impurities. Today we use animal charcoal for refining purposes and for this reason India has only recently become a purchaser of sugar refined in this way, having refused it in the past because of religious prejudices.

The earliest use of sugar was as a medicine, particularly in Egypt, and not as a food, and for centuries the Egyptians were looked upon as the cleverest physicians. Even today there is a Spanish saying "like an apothecary without sugar." The Moors introduced the sugar cane to Spain (where it was cultivated as early as the 8th century), which the inhabitants accepted along with arithmetic and soap.

The desire for sugar grew slowly but steadily. The Venetians sent a shipment to London in 1319 in exchange for wool but it remained a rare luxury. Marco Polo and the Crusaders told stories about the wonderful sweet they had found. Loaf sugar was made in the 15th century in Venice. In 1842 the price was \$2.50 a pound. The new route to India was in search of sugar and spice and the wealth of the Indies. By 1494 the Spanish and Portuguese had planted sugar cane in San Domingo and at the beginning of the 16th century it had been introduced in the West Indies and South America. Later the Jesuit Fathers of San Domingo sent the cane and slaves to Louisiana.

Canada imported 9,675,385 pounds of raw sugar in 1938, valued at \$17,860,202. Canadian people consume yearly about 100 pounds of sugar per capita in various forms.

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No. 95. Tues. Jan. 3, 1939 The Canadian Pig

The pig has been aptly termed the "farm mortgage lifter." During the recent years of the depression, we are told by the Department of Agriculture, the pig has been more than that. It has been the means of rescue for many a farm and just about the only source of profitable income for many thousands of others.

Pig raising is practised quite generally throughout the Dominion. Some sections quite naturally contribute to the commercial available supply more than some others. The province of Ontario is the largest producer, with Alberta a close second. During the year 1937 about 4,000,000 hogs were marketed through the regularly supervised channels of trade and inspected packing houses. Of this volume Eastern Canada contributed slightly over half while the remainder originated in the Prairie Provinces.

Marketings during 1937 have been quoted because in that year not only an all-time record of hog output in Canada was made, but of Canadian bacon exported to Great Britain as well. Generous crops in 1936 encouraged an extension in pig breeding that year which made itself felt very definitely in the year following. Nature, however, played havoc with crops during 1937 in many of the best producing areas of Western Canada, forcing the liquidation of breeding stock with a constant decline in marketings during 1938. That year was the most profitable one which the pig raiser has known for many a day. However, indications are that the records established in 1937 will soon again be equalled if not surpassed.

There are two chief markets upon which the product of the Canadian bacon pig is sold. One of them is here at home and the other is Great Britain. The people of



Britain consume annually about a billion pounds of bacon. Of this tremendous amount British production takes care of barely one-fourth. The remainder must be supplied from Empire and foreign sources. That is why Great Britain is the greatest bacon market in the world and other countries struggle for a place in it. Denmark supplies approximately half of the British imports while Canada is second in the running with about 22 per cent, a proportion equal to about 1,700,000 pigs.

The most important bacon product of the British trade is the Wiltshire Side, a name derived from a product of special excellence produced at one time only in the county of Wiltshire, England, but which has since become the standard cut and style of the best in British bacon.

Pig improvement in the Dominion has been greatly accelerated during the past fifteen years, but the first efforts towards improvement took place over half a century ago.

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No. 96. Wed. Jan. 4, 1939 -- A Canadian Boys' Band

One of the most successful bands of its kind in the world, consisting entirely of boys, is revisiting the United Kingdom this summer. It will be its third British trip. Known as the Vancouver Boys' Band, it was formed in 1928 in a small way by a music teacher, Mr. A. W. Delamont, and soon, with the practical support of parents and townspeople, it had acquired instruments worth a great deal of money, had reached a strength of seventy and had made its uniform of white shirt and coloured cloak familiar across the Dominion. It won championship after championship and in 1934 decided to try its winning touch in England.

The boys contrived to pay their own fares, were given a notable reception -- including a special handshake from the Lord Mayor of London -- and carried off the first prize for its class at the Crystal Palace Band Festival against thirty-three rivals.

The Band returned to the United Kingdom in 1936, the lads again paying their way and filling thirteen weeks of engagements, their performances in many cases following or preceding civic receptions. Among the cities where they played, in addition to London where they appeared several times, were Southampton, Yeovil, Wolverhampton, Redditch, Derby, Matlock, Loughborough, Gloucester, Cheltenham, Cinderford, Northampton, Coventry, Kettering, Luton, Hertford, Folkestone, Leicester, Dublin, Southport, Morecambe, Dunfermline, Bath, Newbury, Eastbourne.

This year, after playing at the New York World's Fair, they will again cross the Atlantic, arriving in England on July 8th and remaining until the end of September to fulfill many engagements.

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No. 97. Thurs. Jan. 5, 1939 -- Seeing Through Five Inches of Steel

"Nothing that scientific investigation can achieve in the way of ensuring excellence of workmanship is being left undone by Canada in the execution of the aircraft orders she is receiving from this country," says a newspaper clipping which comes to us from England.

"Take the case of the X-ray inspection of castings. This has been carried to a



fine art by the experts of the National Research Laboratories in Ottawa, who are passing on the fruits of their labours to the individual manufacturers. They use the rays to discover inherent weaknesses which cannot be revealed by human means. A wide range of tubes is used, their penetrating power varying from the very "soft" 5,000 volt rays suitable for examining thin sheets of asbestos cloth to the 600,000 volt rays capable of penetrating five inches of steel. Then there are tubes operating on 30,000 to 70,000 volts for examining magnesium or aluminium castings up to three inches in thickness, while a 200,000 volt set is also used for steel up to one-and-a-half inches. For thicker sections a choice is made between using radium or super voltage X-rays."

In the "old" days, sample castings were cut apart in the search for flaws. If these samples were found to be satisfactory the other castings from the same "melt" were approved for use, reliance being placed on the tendency for flaws to recur in castings from the same pattern and from the same melt. Even in these cases, however, there was considerable chance of missing large cavities. But nothing can escape the X-ray eye.

The Department of National Defence in Canada made arrangements some two years ago for the inspection in the National Research Laboratories of castings used in the construction of air-craft, and since that time all the castings for the structural parts of new planes have been inspected by this method. Now they are almost completely flaw-proof.

Where flaws are found, X-ray pictures of the defects are sent to the foundries where the castings were made, and the necessary steps taken to ensure that they shall not be repeated.

The service of this electric eye is, indeed, so helpful to the foundries themselves that, in conjunction with the National Research Laboratories, a number of them are installing X-ray equipment of their own.

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No. 98. Fri. Jan. 6, 1938 -- Today's Fish Story - Atlantic Salmon

The catch of Atlantic salmon is small when compared with the huge production of the British Columbia variety, yet it is important, for the catch runs around 30,000 cwt., bringing to the fishermen half a million dollars. It is a shapely fish, weighing usually between five and seven pounds.

The bulk of the Atlantic salmon is taken in Quebec and the Maritime Provinces -- particularly in the estuaries and rivers flowing into the Gulf of St. Lawrence. Northern New Brunswick and the Gaspé and North Shore districts of Quebec are the principal producing areas, but New Brunswick produces more than all the rest together, followed by Quebec and then Nova Scotia. The Prince Edward Island catch is very small.

While Pacific salmon are taken chiefly from June to October, the Atlantic salmon season is from May to August, with the largest catches in June and July. They are marketed fresh and frozen, only a small quantity being canned and pickled. A ready market exists in Great Britain for Atlantic salmon. Nets are used in taking the commercial catch, but a considerable number is caught by sport fishermen with rods, lines and hooks.

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No. 99. Sat. Jan. 7, 1939 — Canada and French Africa

The French colonial empire in Africa is extensive. It includes Tunisia, Algeria, the Federation of French West Africa, French Equatorial Africa, French East Africa, Madagascar and its dependencies. The area is almost equal to that of the Dominion of Canada and the population is over 32,000,000 souls, more than 1,000,000 being of European origin.

Of France's African colonies, perhaps the most prominent in the public mind is Tunisia. The history of Tunisia begins with the establishment of the Phoenician colonies. The Punic settlers semitized the coast, but after the Romans entered into the heritage of the Carthaginians, the Punic speech and civilization gave way to Latin. Tunisia formed part of the territory which the Romans called Carthage. After that there were Arab and Berber dynasties. Tunis, the capital, was a flourishing city, particularly in the manufacture of fine cloth.

The conquest of Algiers by the Turks gave a dangerous western neighbour to Tunisia, culminating in a Turkish conquest, followed by a Spanish occupation, and again a Turkish conquest. Under the Deys and Beys (Turkish rulers) Tunisia was essentially a pirate state. The release of all Christian slaves was not effected until after the historic bombardment of Algiers and may be dated from the collective note of the European powers in 1819.

The French began to regard the dominions of the Bey as a natural adjunct to Algeria, but after the Crimean War Turkish rights over the regency were revived. After the Franco-German War the embarrassed Bey turned to Great Britain for advice, and a British diplomatic agent was at the court of Tunis until 1879. Just before that the British government agreed to allow France a "free hand" in Tunisia in return for French acquiescence in the British lease of Cyprus. In 1881 the country was brought completely under French protectorate. The year before that, the Italians had purchased the British railway from Tunis to Goletta. As France has no surplus population most of the immigrants to French Africa are Italians. Centuries before, the country was settled by Jews who moved to this part of the world when it was still a Turkish possession, where they had a better chance to survive than under Christian rule. They still form a large part of the population.

Tunisia extends southward to the Sahara. It has an area of 45,000 square miles, nearly as large as Nova Scotia and New Brunswick combined. There are  $2\frac{1}{2}$  million inhabitants, of whom 91,500 are French civilians and 91,200 Italians. Tunis itself has a population of 203,000.

The valleys of the northern region support large flocks and herds and contain rich agricultural areas, growing wheat, barley and oats. The vine and olive are extensively cultivated. The principal exports are phosphates, olive oil, wheat and esparto grass. Eighty per cent of Tunisia's trade is with France and Algeria.

Last year Canada's imports from French Africa amounted to \$56,500 and exports to that country were valued at \$150,000. We obtained iron ore, Oriental carpets, olives, olive oil, a vast quantity of canary seed, much salt, wines, furs, etc.

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No. 100. Sun. Jan. 8, 1939 -- Economics in Farming

The complexities of modern business have brought to the fore the contributions of the specialist. Very often, the more diverse the business the greater the need for his assistance. Nowhere, perhaps, is this more evident than in farming.

Fifteen or twenty years ago stories were being commonly told of how a broken-down automobile was made to run with a piece of fence wire. Today, the majority of motorists have little more than a speaking acquaintance with the engine of their car. It is now necessary to call in a trained mechanic when there is trouble with the car. Similarly, in days gone by, when agricultural incomes fell and farmers had difficulty in making ends meet, it was often possible to remedy the situation by adding another cow to the herd, or by seeding an extra ten acres of wheat. These methods may still be effective in many instances but they do not always give the desired result. It is frequently necessary to call on some one qualified to give advice and guidance.

To carry the analogy of the motor mechanic one step further. When the mechanic tackles his job, he first makes a thorough examination and determines which part or parts are causing the trouble. Then after he has discovered the point of trouble, he proceeds to deal with that specific problem. So with the agricultural economist. He cannot possibly examine the whole industry at one time, because of limited time and resources. Rather, he must be content to isolate the most troublesome points and then concentrate his efforts on the solution of that specific problem. His next duty is to bring together all the facts bearing on this particular problem and analyze the facts in such a way as to discover the true answer. This has been the work of the Economics Division of the Department of Agriculture in the ten years since that branch was established.

At the present time the Division is carrying on research on more than twenty separate agricultural problems. We await with interest their findings, which will no doubt have an important bearing on Canadian farm economy.

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No. 101. Mon. Jan. 9, 1939 -- Prairie Farm Rehabilitation

Under the Prairie Farm Rehabilitation Act, as passed in 1935, provision was made for giving assistance to farmers and ranchers largely on a self-help basis for the rehabilitation of drought and soil drifting areas in the open plains of Alberta, Saskatchewan and Manitoba. In 1937 the Act was amended so as to extend the scope of the work to provide particularly for rehabilitation on a community basis, including the establishment of community pastures.

The rehabilitation work now organized under the Act embraces three main activities: (1) cultural work to promote systems of farming that will provide greater economic security, (2) water development to encourage and assist in the fullest utilization of all surface water supplies, and (3) land utilization where areas of inferior soil are being removed from crop production, and community pastures established.

In the land utilization work, the primary object is to remove inferior lands from cultivation and put them to more economical use by establishing community pastures after individuals residing in these areas have been re-established. It has been estimated that about 25 to 50 per cent of the 60,000,000 acres of land in the open plains, subject to varying degrees of drought, are unsuitable for grain growing

on account of inferior soil, topographical conditions, and low rainfall.

Water development has probably attracted wider attention than any other phase of the P. F. R. A. work, possibly for the reason that no other problem has so great an effect on the daily life of the people on the prairies. This phase of P. F. R. A. work includes (1) small projects for individual use such as dugouts, dams, and irrigation where feasible, on which the farmer does the work and receives some financial assistance to cover part of the cost of construction; (2) municipal or small community projects where work is done by a municipality or local association; (3) larger community projects, either for stockwatering or irrigation, and constructed under contract, and (4) larger water storage projects for which \$500,000 was voted by Parliament for expenditure in 1938 under the supervision of the P. F. R. A. staff.

Of the 18,000 applications for assistance in individual water projects, 8,400 were completed by the end of 1938, together with 15 larger community irrigation projects involving 176,000 acre-feet of water and 90,000 acres of irrigable land. In addition, 28 larger community dams and 170 municipal, or smaller community, projects were completed in the three provinces up to the end of 1938.

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No. 102. Tues. Jan. 10, 1939 -- Urban Growth in Other Countries - 1

The growth of urban communities is necessarily limited by the continuous secure food supply available for consumption on a limited area of ground. This in turn is dependent upon three factors -- the degree of skill which has been attained in agricultural production, the stage of development of transportation facilities, and the maintenance of law and order requisite for the safe transport of food supplies from the country to the city as well as of the goods produced in the city and exchanged for food. Thus a certain degree of civilization and control over the powers of nature, and a settled government, are prerequisites of the growth of cities. Where these cease to exist, cities decline and are eventually lost and forgotten, as in India, Persia and Yucatan.

Without delving too deeply into past history, we may note that in ancient and mediæval times men generally lived close together for purposes of protection and defence. The ancient city was usually a walled town, whose inhabitants in time of peace cultivated the land outside the city walls, or drove their flocks and herds to pasture in the valleys of the neighbouring streams. As a further means of defence, the ancient city was usually "set upon an hill" or at least had its central citadel upon a hill, like the Acropolis of Athens or the Capitoline Hill at Rome.

The growth of such cities was conditioned by their facilities for importing food or producing it nearby. For the great Athens of the fifth century before Christ, the primary necessities of existence were the Athenian navy, which protected the supply of sea-borne grain, and the Long Walls, which connected the city with its port (the Peiræus) and which were impregnable to the Greek artillery of those days; therefore, when the Athenian navy was defeated in the Peloponnesian War, Athens surrendered as a matter of discretion, because she could no longer import food.

Similarly, in the first century before Christ, the very existence of Rome as a powerful city was threatened by the pirates who infested the Mediterranean and obstructed the shipment of food supplies from Africa, so that in order to overcome the pirates Rome was obliged to hand over enormous powers of an unprecedented character to Pompey the Great; the result was that soon after the pirates were extirpated the rather disorderly Republic became the Roman Empire. In addition to



Rome itself, Antioch, Alexandria and subsequently Constantinople grew in the flourishing days of the Roman Empire to be comparable to any of the great cities that have existed in the modern world prior to the nineteenth century.

No. 105. Wed. Jan. 11, 1939 ... Urban Growth in Other Countries - 2

While there had been world contacts and a considerable degree of world consciousness in Graeco-Roman civilization, the society which succeeded it had a very narrow outlook, and this continued in mediaeval Europe so far as the masses were concerned. The great bulk of the people lived in manorial villages and were "tied to the soil." The average English manorial village had perhaps 250 to 300 inhabitants. It was a self-sufficient economic unit, exporting and importing little from any other community, and seldom interested in what was going on outside its own boundaries, except when its lord went away to war and had to be supported from home, or when the Pope demanded Peter's Pence, or when the village, if on or near the sea-coast, was sacked by the French. Life would continue as usual in one's own village even when a neighbouring village was destroyed.

The towns which existed in England in the reign of William the Conqueror are shown by Domesday Book to have been merely enlarged manorial villages which had grown because of some favouring circumstance -- location on a good harbour, or at the intersection of two main highways, or at a ford or bridge, the names of Oxford and Cambridge being significant in this connection. The larger towns, which in many cases were royal manors, succeeded in purchasing from their lords charters granting their inhabitants relief from the ordinary feudal services, and thus became what were called "free" cities, while their original inhabitants, or those who could trace their descent from the original inhabitants, became "freemen" -- a term which is still in use and confers certain valuable rights in various British and Continental European cities. When the House of Commons was constituted in the reign of Edward I, these free towns became "boroughs", each of them sending two representatives to the House of Commons, which from the historical point of view is more correctly called "House of Communities."

At the time of the Domesday Book, toward the end of the eleventh century, the total population in some eighty recorded towns, together with the population of London, which was not included in Domesday Book as it comes down to us, was about 150,000, or probably about one-twelfth of the estimated population of England at that date. It is probable that from then until the present the proportion of the urban population of England to the total population has been fairly steadily on the increase as transportation facilities improved and law and order became more firmly established, except for the interruptions at the time of the Black Death about 1349 and the plague and the great fire of London of 1666. Of course, there was no census taken in England until 1801 and no division of the population into rural and urban until 1851, though there are estimates of the population of London at various dates.

The urban population of England and Wales has increased from 9,155,964 in 1851 to 20,895,504 in 1891 and to 31,948,166 in 1931, or from 51 per cent of the total population in 1851 to 72 per cent in 1891 and 80 per cent in 1931. In the same two forty-year periods the rural population has declined from 8,771,645 or 49 per cent of the total in 1851 to 8,107,021 or 28 per cent in 1891 and to 7,999,765 or 20 per cent in 1931. Thus there has been not only a relative but also an absolute decline in the rural population, implying enormous migration from the country districts to the urban communities during the eighty-year period.

No. 104. Thurs. Jan. 12, 1939 -- Urban Growth in Other Countries - 3

London, which may be considered as typical of modern cities in its growth, was already an important commercial centre in the days of the Romans, but declined in early Anglo-Saxon times. It remained, however, the leading city of England, and after the Norman Conquest must have increased in population through the growth of commerce with the Continent. In 1199 the city had 40,000 inhabitants and 120 parish churches, according to a letter written by the then Archdeacon of London to Pope Innocent III. From this time until about 1500 the population of London, and indeed of England as a whole, appears to have shown little increase, which was doubtless due in part to the Black Death about the middle of the fourteenth century. After 1500, when the population of the city may have been 50,000, the growth was more rapid. At the end of the seventeenth century the population is given as 550,000 and in 1737 as 726,000.

After 1500, the commerce of London greatly increased and the consequent call for young workers attracted from the rural districts many country boys, of whom the famous Dick Whittington is typical. Since this growth was considered as an evil, one Parliament after another passed acts restricting the growth of population and the building of houses, but such laws had the usual fate of legislation which is in opposition to the economic trend of the times, and London grew faster as time went on. At the first actual census of England and Wales in 1801, the population of the Administrative County of London was returned as 959,310, which had grown to 4,536,267 in 1901 but had declined to 4,397,003 in 1931. However, the population of the whole area known as 'Greater London,' including the Administrative County of London, together with many suburban communities, increased from 1,114,644 in 1801 to 6,581,402 in 1901 and to 8,203,942 in 1931. Thus during the past generation, the population of 'Greater London' has increased, while that of the Administrative County of London has declined, a major cause of the "moving to the suburbs" having been the increase and improvement of transportation facilities. The same tendency will be found to exist in other great cities as the result of the advent of rapid motor transportation.

The population of Scotland has shown in the past seventy years the same tendency toward the disproportionate increase of urban population and decrease of rural population that has been described for England and Wales. At the latest census less than one-fifth of the population of Scotland can be described as rural. Indeed, the total number of rural residents enumerated at the census declined from 1,295,676 in 1861 fairly steadily to 963,010 in 1931.

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No. 105. Fri. Jan. 13, 1939 -- Today's Fish Story - Whitefish

From a commercial point of view the whitefish ranks as the most important of Canada's fresh water fishes. The annual catch in recent years runs to a value of almost two millions of dollars. It is caught all year but the supply is limited from December to April. Whitefish can be had fresh, frozen and smoked and it is a fish of high food value, popular with the consuming public.

The lakes of Ontario, Manitoba, Alberta and Saskatchewan are the chief sources of supply and during the winter months the whitefish are taken in nets set under the ice. The usual means of catching whitefish is by nets all year round. The average weight of the fish is from two to three pounds. It is not a very beautiful fish in appearance, its head being very small comparatively, but it is a good fish for all that. It has not the beautiful stream-lined body of the lake herring nor of the sea water mackerel, for instance.



The catch of whitefish last year was over 55,000 cwt., and the value marketed fresh was close to \$20,000. That was the largest catch of any province of the Dominion but in Manitoba it was about \$375,000, Saskatchewan over \$350,000 and Alberta almost \$315,000. A considerable quantity of whitefish is caught in the Yukon, mainly for local consumption.

Another popular food-fish of the whitefish family is the Goldeye, taken in the fresh-water lakes of Manitoba. Smoked goldeyes command a ready market and the demand often exceeds the supply. The greater part of the catch is smoked, and in this form the fish is attractive in appearance and sweet and palatable in taste.

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No. 106. Sat. Jan. 14, 1939 --- Canada and British East Africa

The possessions of the British East Africa Company, those famous pioneer traders in Kenya colony, were made part of the Empire in 1920. The year previous, the holdings of the German East African colony of Tanganyika ("Great Meeting of the Waters") became a British mandate following the Great War. With the islands of Zanzibar and Pemba, these are all now consolidated under the name British East Africa, with the capital at Nairobi.

The largest and most important coastal city of British East Africa is Zanzibar (situated on the island of the same name), the capital of an old slave-trading country over which the British established a protectorate in 1890. The town was an important centre for Arab merchants from all over the Indian Ocean in modern times, and seems to have been a trade centre in early historic and Biblical times. The Arab traders were probably responsible for the spread of the Swahili language, the patois of Zanzibar, which is now spoken all over the east coast of Africa.

The area of the country is 586,000 square miles, almost as large as the province of Quebec. The population is over 8,250,000, of whom 27,000 are Europeans, 55,000 Asiatics and Arabs and the balance is composed chiefly of the native mixed Bantu races. There are about 2,200 European farmers throughout the Colony, the most closely settled part being the good coffee soil near Nairobi.

A great portion of the country consists of pasture lands or barren wastes, but there are also extensive districts of great natural fertility in the interior as well as on the coast, the eastern portion between Nairobi and the coast being particularly fertile. The city of Mombasa, with a population of 50,000, possesses perhaps the finest harbour on the east coast of Africa.

The principal products exported from British East Africa are coffee, raw cotton, grains and sisal fibre. Canada's imports from the country were valued at \$3,288,000 last year, the most important commodity being green coffee. Of late British East Africa has become the largest contributor of coffee to the Canadian market. Other large imports are Indian corn, cocoa beans, sugar and sisal.

Canadian exports to British East Africa amounted to almost \$1,000,000 in 1938, the leading items being automobiles, rubber tires and tubes, paper boards, farm implements and machinery, canned vegetables, canned fish, and a very large variety of other commodities.

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No. 107. Sun. Jan. 15, 1939 -- Tobacco Growing Progress

The history of tobacco growing in Canada reaches back into the early French colonial days. The French settlers on the banks of the St. Lawrence found the custom of tobacco smoking to be general among the natives. For some years very few of the whites acquired the habit, partly because of governmental opposition. Eventually, however, smoking became general and farmers began to grow the plant; but it was not until about 1735 that the home government in France actually encouraged tobacco growing in Canada.

Tobacco growing continued under British rule and production gradually reached its peak in 1938 with a crop of approximately 96,000,000 pounds. The tobacco now grown in Canada consists mainly of the types and varieties cultivated in the United States. An exception to this is found in the pipe tobaccos produced in the province of Quebec. These comprise a somewhat mixed group of varieites, the origin of some reaching back into the days of the French regime in Canada, while the seed of others was brought from Europe more recently.

With regard to modern cultural methods, the Department of Agriculture twenty years ago published an important Bulletin dealing with the subject "Tobacco Growing in Canada", and since that time the industry has witnessed a considerable change. Although that Bulletin is now out of print, requests for it are being received constantly and a complete revision, therefore, was deemed advisable. A new bulletin has now been prepared.

In the new bulletin an attempt is made to deal briefly with the more important phases of tobacco production. Subjects such as types of seed beds, cultural practices, methods of harvesting and curing, diseases and insects are discussed in an easily understood way. No attempt is made to deal exhaustively with these or related problems. Its purpose is to provide general information on the subject and to give the results obtained from recent experimental work throughout the Dominion. The Bulletin is well illustrated.

No. 108. Mon. Jan. 16, 1939 -- Urban Growth in Other Countries - 4

In the colonies on the Atlantic seaboard which were afterwards to become the original United States, the population was from the beginning predominantly rural, and towns of any size were few and far between. Indeed, the rise of towns was discouraged by Imperial Acts, which forbade in the North American colonies the establishment of manufacturing industries that might compete with those of the Mother Country but which at the same time extended preferential treatment in the Mother Country to the raw products of the colonies. The colonies were supposed to confine themselves as far as possible to the production of primary products, and to exchange those primary products, on which they received a preference, for the manufactured products of Great Britain. Yet that very exchange promoted the rise of towns at the points of shipment, though such towns remained commercial rather than manufacturing centres; the chief ones were Boston, New York, Philadelphia, Baltimore and Charleston. Thus in 1698 the first census of the colony of New York gave to New York city a population of 4,937, while a census taken in Massachusetts in 1722 gave Boston a population of 10,567. The population of Philadelphia is estimated to have been 14,563 in 1753, that of Charleston 10,863 in 1770, and of Baltimore 5,934 in 1775 at the commencement of the War of Independence.

The first uniform census of the United States, taken in 1790, showed that there



were only six towns and cities with over 8,000 population -- Philadelphia and suburbs with 42,444 people, New York (then confined to Manhattan Island) with 33,131, Boston with 18,038, Charleston with 16,359, Baltimore with 13,503 and Salem with 7,921. The total urban population was 131,472 or 3.3 per cent of the grand total of 3,929,214. On this basis, only one in every 30 of the population of the United States was an urban resident. By 1800 the proportion of urban population resident in towns and cities of 8,000 or more rose to 1 in 25, and by 1810 practically to 1 in 20. By 1850 the proportion of population in cities and towns of 8,000 and over rose to 1 in 8, or 2,897,586 out of a total population of 23,191,876.

At the Census of 1860, just before the outbreak of the Civil War, the population in cities and towns of 8,000 and over, which were nearly all located in the Northern States, was almost one sixth of the total or 5,072,256 out of 31,443,321. At the end of the century it numbered 25,018,000 out of an aggregate of 75,995,000 or 32.9 per cent (almost one-third). Finally, in 1930 the urban population resident in 1,208 cities and towns of 8,000 and over aggregated 60,333,000 or 49.1 per cent (almost one-half) of the total population of 122,775,000.

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No. 109. Tues. Jan. 17, 1939 -- Urban Growth in Other Countries -- 5

The City of New York is the commercial metropolis of the United States as London is of England, and its growth may be taken to represent that of the urban communities of this continent at their maximum. Founded as New Amsterdam about 1626, the town had by 1656 a population of 1,000, and in 1698 the first census of the colony of New York gave it a population of 4,937. By the middle of the eighteenth century (1749), it had grown to 13,294, and in 1790 the population of the city proper, situated on Manhattan Island, was 33,131, while in the same year the population of the territory now comprised in the five boroughs of New York City was 49,401. By 1800 the population of the latter area was approximately 80,000; in 1930, 6,930,000.

The population of the City of New York, however, is much less than that of the greater district in which so many of the City's workers and their dependents reside. The question of suburban areas and how far they may be included with the central nucleus in metropolitan districts is a difficult point in these days of rapid transportation by motor car and omnibus and electric and special steam railways for "commuters". In an attempt to meet this situation, the United States Census Bureau, after the Census of 1930, arranged for separate compilations for metropolitan districts. The metropolitan district of New York City has a total land area of just over 2,514 square miles in the three States of New York, New Jersey and Connecticut. This area had in 1920 a population of 8,505,404, which had increased to 10,901,424 in 1930. While this population is considerably larger than that of 'Greater London,' it may be pointed out that the largest area included in the latter is given as about 653 square miles, or not much more than one-quarter the area included in the metropolitan district of New York which the United States Census Bureau designates "New York-Northeastern New Jersey Metropolitan District".

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No. 110. Wed. Jan. 18, 1939 -- Urban Growth in Other Countries -- 6

In Germany there was a great growth of urban population following upon the establishment of the German Empire in 1871; this increasing urban population imported from abroad immense quantities of food stuffs and raw materials and exported finished



goods to every quarter of the world, thereby competing with the manufactured products of the United Kingdom and the United States, the other two chief exporters of manufactured goods.

In Germany between 1875 and 1933 the population of communities with less than 2,000 declined from 26.1 to 21.5 million persons, while that of the smaller towns and cities (with populations from 2,000 to 100,000) increased from 14.0 to 23.5 million; and of the larger cities of over 100,000 people the increase was from 2.7 to 19.7 million. Thus the "ruralites declined from 60.9 per cent to 33 per cent of the population, while the smaller town and city dwellers increased from 32.8 per cent to 36.8 per cent and the residents of large cities increased from 6.3 per cent to 30.2 per cent of the total population.

The growth of Berlin into one of the great cities of the world may be considered typical of the urbanization of German community life. In the eighteenth century, Berlin was still a comparatively small town and in 1816, at the end of the Napoleonic wars, it had a population of 198,000, but by 1871 this figure had been quadrupled, reaching 826,000. In the next thirty years it had more than doubled its population, attaining 1,888,000 in 1900. By 1925 it had again doubled to over 4,000,000 inhabitants, and by the Census of 1933 it was over four-and-one-quarter million. The comparatively small increase in recent years appears to have been due to the same causes that are responsible for the decline in the population of Central London and Manhattan Island -- the increased facilities of cheap and rapid transportation and the growing desire of those who work in the city to have their homes in its suburbs.

The same growth of urban population which we have noted in England and Wales, the United States and Germany, has taken place within the last century and particularly within the last generation in other countries of the white man's world. Everywhere the percentage of population living in urban communities has shown increase and the rate of increase has generally been the more rapid in proportion to the size of the city. Indeed the larger cities have shown the most rapid rates of growth of any and have drawn to themselves the most specialized persons in this day of specialization of function. The aggregation of population has tended to draw to itself more population, like the proverbial snowball.

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No. 111. Thurs. Jan. 19, 1939 -- Urban Growth in Other Countries - 7

The enormous growth of urban population is not peculiar to the Western world. The same causes which have led to its growth there have also produced a growth of urban population wherever the same economic system has been accepted. Thus in Japan, which was first opened up to the white man's influence in 1858 and which overthrew the old mediæval system of government about 1870, there has been a wholehearted acceptance of the capitalistic system of industry and of the use of machinery in production. The result has been an enormous growth in the cities, particularly in Tokyo and Osaka. While in 1879 there were 250,000 households in Tokyo with a total population of 825,000, the national Census of October 1, 1930, showed 414,000 households with a population of 2,071,000. This, however, is far from representing the full growth of the Japanese metropolis. On October 1, 1932, eighty-two suburban towns and villages were absorbed into the new city of 'Greater Tokyo', thereby giving it a total population of 4,971,000 as at the national Census of 1930; it is now considerably over 5,000,000, so that Tokyo is well established as one of the greatest cities of the world in spite of its devastation by earthquake and conflagrations in 1923.



The introduction of Western industrial methods in India has produced somewhat the same results as it has in Japan. In recent years the factory system of industry has to a considerable extent replaced the old Indian trades with the result that urban population, though as yet a comparatively small part of the total, has increased in recent decades proportionately much more rapidly than the rural. In 1931 the aggregate urban population was 38,985,000 or 11 per cent of the total population as compared with 10.2 per cent in 1921 and 9.4 per cent in 1911. This increase of urban population springs from the increasing diversification of functions, which is most desirable in a great country like India where the population has in the past been too exclusively agricultural and therefore subject to great privations whenever the rainfall was deficient.

The experience of certain countries in the development of urban growth gives us a background in considering the Canadian problem of urban growth. The urban population of the Dominion between 1901 and 1931 grew by 177 per cent, while the rural in the same thirty years grew by only 43 per cent. At the present time it is widely believed that, for a country whose general population density is only three to the square mile, Canada has too large an urban population, approximately 28 per cent or nearly two-sevenths of its 1931 population residing in the seven leading cities, including suburbs. There is much to be said in support of the contention that, in view of our vast almost empty spaces, we are over-urbanized, but it should also be remembered that the history of civilization is very largely the history of great cities and that new and distinct types of culture and new nationalities are developed where the more original minds of a country are able to meet and exchange ideas.

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No. 112. Fri. Jan. 20, 1939 . . Today's Fish Story . . Pickerel

The pickerel is a fresh water fish which goes by several names in Canada such as doré, pike perch or wall-eyed pike. It is caught in great numbers in the Great Lakes and also in the waters of the Prairie Provinces. It is one of our best inland water food fishes. It should be remembered that it is an axiom among authorities that food fishes improve in proportion to the purity and coldness of the waters in which they are taken. Judged by this standard and recognizing the great depth and coldness of Canadian inland waters, it will be seen that these fish are the peers of any in the world. Pickerel is one of these and from the fact that the annual catch runs close to 150,000 cwt. at a marketing value of over one million dollars, it will be seen that pickerel enters largely into the fish diet of the Canadian people, though Canadians generally do not consume fish to the same extent as the people of many other countries do.

A well known variety is known as the blue pickerel, which is abundant in Lake Erie. The flesh is firm, flaky and white and is highly esteemed. It weighs from three to seven pounds. The largest catch of pickerel is in Manitoba where it runs to about three-quarters of a million dollars, the Ontario catch coming second at less than \$200,000.

The sauger pike, which has an average weight of about one pound, is very similar to the pickerel. It is taken in the Ontario and western lakes. Sauger is marketed fresh in Manitoba to the value of close to \$400,000.

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No. 113. Sat. Jan. 21, 1939 -- Canada and Portuguese Africa

The Portuguese colonies in Africa consist of Angola on the west coast, with an area of 476,000 square miles and a population of about 4,600,000; Mozambique on the east coast (known also as Portuguese East Africa) with a territory of 298,000 square miles and over 4,000,000 inhabitants; Cape Verde Islands off the west coast, whose total area is 1,500 square miles with a population of more than 150,000; and Sao Thomé and Principe Islands in the Gulf of Guinea, with a total population of 60,000.

The Portuguese were the first European explorers of the west coast of Africa. They were on their way to India and China, having very little interest in Africa, but feeling their way along the coast they stumbled upon the Canary and Cape Verde Islands. In time they reached the equator, and eventually in 1498 Vasco de Gama rounded the Cape of Good Hope and definitely located the shortest route from Europe to the Indies. The skippers of the 16th and 17th centuries on their way to the Orient called at the different islands along the African coast for fresh vegetables and water, but they gave the continent of Africa a wide berth.

By that time other European traders were penetrating the continent to make deals with the Arabs for slaves. Attracted by the lucrative trade, the Portuguese in these early days joined their neighbours in raiding African villages for slaves. About that time a Papal Bull had divided the whole world into two halves, one of which belonged to Spain and the other to Portugal, and Africa happened to be in Portugal's half. This made it impossible for the Spaniards to visit the slave coast themselves so the actual slave transactions were left to the Portuguese. Thus they soon built up a redoubtable colonial empire in Africa.

When in the course of time the power of the Portuguese was destroyed by the English and Dutch, slave-running became a Portuguese and Spanish monopoly. They provided the world with African slaves until 1811 when the British Parliament passed a bill making the traffic illegal, although it was another half century before all European and American nations had abolished slavery definitely.

It is with what now remains of that vast empire of the Portuguese in Africa that Canada has a business connection, although all that we obtain from them is a little over 2,000 cwts. per year of sisal fibre. On the other hand, our exports to Portuguese Africa are of considerable volume, amounting to almost two million dollars in value yearly. Our most important exports are soda and compounds for agricultural purposes, lumber for building, along with wheat, wheat flour, automobiles, rubber goods, canned salmon, silk stockings, newsprint paper, farm implements and machinery, electrical apparatus, tools and hardware.

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No. 114. Sun. Jan. 22, 1939 -- Waterfowl Outlook Brighter

For the first time in ten years, the waterfowl outlook in Canada shows improvement, according to a recent survey conducted by the Chief Federal Migratory Bird Officers of the Department of Mines and Resources. With the exception of the southern parts of the Prairie Provinces, the waterfowl of Canada experienced a good year in 1938.

Waterfowl in British Columbia showed a general improvement over 1937. In the Dry Belt water conditions were better than anticipated. This improved condition was particularly noticeable in the Okanagan and Nicola districts where a number of ponds contained water for the first time in many years. Young ducks of all species



appeared to be above normal in percentage of survival.

As a whole conditions in the Prairie Provinces continued poor for waterfowl, but indications are that the drought cycle is at last broken and a brighter future for the waterfowl in this important duck nesting area is anticipated. Water restoration work under the authority of the Prairie Farm Rehabilitation Act and by private interests has undoubtedly improved nesting conditions and will continue to exert an increasingly beneficial effect as these efforts are extended.

In Ontario and Quebec a general increase in the number of ducks was reported. This was particularly noticeable in Black Ducks and Blue-winged Teal, and there were also some gains in the numbers of Mallards, Scaup, Redheads, and Canvas-backs. Wood Ducks appeared more numerous in some areas commonly frequented by them. The improvement is generally attributed to a favourable nesting season, a good supply of food, the prohibition of baiting and the use of live decoys, later opening of the hunting season, good observance and enforcement of law, and the short hunting season and other restrictions in the United States.

In the Maritime Provinces the duck population showed a definite increase. Black ducks were reported more numerous than for years throughout the Maritimes, and Pintails were fairly common in sections of Nova Scotia, with every indication that they were reared locally. Blue-winged Teal have unquestionably shown a marked increase throughout the Maritime Provinces in recent years, while the Canada Geese showed up favourably in comparison with 1936 and 1937.

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No. 115. Mon. Jan. 23, 1939 -- Canadian Gold Mining Comes to the Screen

The Department of Mines and Resources has made a motion picture film with sound narrative, of the Canadian gold mining industry, in conjunction with the Canadian Government Motion Picture Bureau. Three reels of 16 mm. film, each a story within itself, depicting underground mining, the treatment of gold ores, and the refining of the rough bullion at the Royal Canadian Mint, have been released.

The first reel, entitled "Unlocking Canada's Treasure Trove", opens with a few short scenes of the historic Klondike gold rush days, when most of Canada's gold output was obtained by placer mining. The beginning of lode gold mining is depicted by an early prospector making a discovery, and the sound of his hammer echoing throughout the Dominion accompanies a brief portrayal of the growth of the industry. Following actual scenes of large producing mines, the audience is taken underground with the men going on shift, and the whole sequence of mining and the various methods of handling the ore are shown in detail and explained by the accompanying narrative. Back to the surface the story ends with the miners coming off work and passing through the "dry" or change house and finally entering their well-kept homes.

The next reel, entitled "From Gold Ore To Bullion," opens with an illustration of the amount of gold recovered from one ton of average ore. Carrying this similitude further, the total gold ore mined in Canada in 1937 is shown as a solid block which entirely dwarfs the Federal Parliament Buildings inserted within it, and in contrast the gold extracted from this block is shown as a  $6\frac{1}{2}$ -foot cube. Going back underground for a moment, the audience picks up the thread from the previous reel, follows the ore up to the surface and sees how it is reduced by preliminary dry crushing in the mill. Then follows in close detail the various steps of the processes for the recovery of the gold, and, finally, the bullion is packed into cases and starts on its journey to the Royal Canadian Mint in Ottawa.



The last reel, "The Royal Canadian Mint", shows the shipment arriving at the Mint, and then follows the sequence of steps whereby the rough bullion is refined into fine gold bars, stamped with the Royal seal and placed in the vault.

Canada's gold production in 1938 was approximately 4,716,000 fine ounces, an increase of almost 620,000 fine ounces over the production for 1937. During the past year a total of 13 new mills joined the list of gold producers; the majority of them are located in Ontario.

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No. 116. Tues. Jan. 24, 1939 -- Garnets

A Saskatchewan school teacher writes inquiring for some further information of a statistical sort regarding garnets. The following is contained in a Dominion Bureau of Statistics report on miscellaneous non-metallic minerals for the year 1937:

No commercial production of garnets has been reported in Canada for several years. In 1937 the Damigo Mining Syndicate, Toronto, conducted mining operations on a garnet deposit in Ashby township some 20 miles east of Bancroft, Ontario, and five tons of garnet rock were shipped to the Industrial Minerals Laboratories of the Bureau of Mines, Ottawa, for concentration tests. The Canada Garnet Company in 1937 acquired the assets of the Labelle Mining, Inc., in Joly township, near Labelle, Quebec, installing mining equipment and beginning the erection of a concentrator at the close of the year. A small amount of garnet rock was shipped for testing to the Bureau of Mines laboratories by the International Garnet Syndicate from its property which adjoins that of the Canada Garnet Company.

Garnet is employed chiefly in the manufacture of abrasive papers and cloths while small amounts are utilized in the grinding of plate glass and other products.

No imports of garnet, described as such, were recorded in Canada during 1936 or 1937; the mineral, however, may enter in the form of abrasive paper or combined with other abrasive imports, n.o.p. It has been reported that approximately 175 tons of graded garnet grains are imported annually into Canada.

Engineering and Mining Journal's "Metal and Mineral Markets" - New York - November, 1938, quotations for garnets were - per ton, f.o.b. New Hampshire mines; concentrate, \$30; grain, \$80 to \$140. New York: Adirondack garnet concentrates, \$85. Spanish grades, \$60, c.i.f. port of entry. Nominal.

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No. 117. Wed. Jan. 25, 1939 -- Bread

Some years have passed since we have said very much about bread, the staff of life.

In Canada for many years bread-making was for the most part a domestic art. It is still a great art today, especially in the rural districts, but even in the cities one may visit a home and enjoy the home-made bread we enjoyed in childhood days. But with the development of towns and cities the baking of bread in the main passed from the domestic circle to the family baker. Yet the charm of the domestic loaf has apparently not lost its cunning for we are all familiar with shop signs that announce home-made bread and pies as mother used to make them.



The domestic baking of bread as the chief supplier of the family board continued for a long period in Canada until, as late as the beginning of the present century, a new phase was marked. And with the advent of mechanical power and automatic processes, also the improvement in transportation, the bread industry has made rapid progress within the last decade.

The latest complete figures for a year are those of 1937 and it is noted that the bread and bakery products industry ranked fifth in the number of employees and seventh in the amount of salaries and wages paid. There were 21,000 persons employed and they got close to \$20,000,000. The selling value of the goods was \$76,000,000.

The materials which go into the making of the attractive products in the bake-shop window are mainly produced in Canada. Bread, of course, is the chief commodity and that accounted for \$55,000,000, the flour being Canadian. Other materials are yeast, shortening, sugar, malt, milk, nuts, cocoanut, frozen eggs, oils such as corn, cotton-seed and soya bean.

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No. 118. Thurs. Jan. 26, 1939 -- The Wonderland of Botany

We are going to try this year to present our readers with some special information of a botanical nature -- statistics is just another word for information. It will be appropriate, therefore, to present to you a very beautiful little story on the "Wonderland of Botany", written by E. W. Hart, of the Division of Botany and Plant Pathology, of the Department of Agriculture. Mr. Hart writes:

In the wonderland of botany there is an enchantment with the quality of a dream that seems to lure us on into the very heart of beauty and adventure. To be lured thus is the wish of most of us -- a wish attainable by all.

One of the botanical wonders of the world is surely the supreme beauty of our Canadian woodland in June; as we roam through the trunk-columned aisles and transepts of our beloved maples. Each leafy glade becomes to us a vast arborescent, cloistered abbey, where the shadows spread deep pools of quietness and where silence is complete, cool and fragrant, but for the wistfully soft voices of the choir of rustling leaves and the whispers of weirdly-sweet Aeolian harmonies of the woodland organ, swelling and sinking with an almost supernatural cadence as a gentle wind harps mystic pastorales upon the twigs. The very sunlight entering our abbey -- fragrant and peaceful as the inside of a flower -- is of a peculiar quality, at once soothing and cheerful, as it strikes through the lush, green, latticed depths of the foliage -- clerestory and bough-groined ceiling.

Of all midsummers, that of Canada is to us the most lovely; when the sun and sky combine together to chant one harmonious song of the joy of life; when the hay fills the air with a drowsy fragrance of soporific and most alluring sweetness, and from wood and copse, from every tree and hedgerow the birds are carolling in blithe chorus.

Flowers are all racing one another in their mad rush to bloom and to enjoy their full share of sunlight. The very ox-eye daisies seem to ogle the sun with their yellow eyes.

When Midsummer Eve is fragrant with the languorous scent of wild flowers, and all over the countryside there reigns a solemn hush of deep, pregnant and magical



silence we like to turn our thoughts to simpler times when people believed that it was on Midsummer's Eve that fairies danced in the meadows and wrote messages to us mortals upon the grass with flowers; and that those who stood under an elder tree would see the king of those mischievous sprites -- the elves. People who are familiar with Shakespeare's "A Midsummer Night's Dream" will of course remember the playful malice of "Puck".

Our wonderland of botany as seen with the eye, the magnifying-glass and the imagination extends through the whole world, embracing earth, air and water. There is no limit to where we may wander in search of new wonders.

It is our purpose to meander hither and thither in quest of adventure, often found in the most unlikely places and when we least expect it. We may venture into the land of the microscope where undreamed-of wonders await us; we may travel abroad and gasp in the humidity of tropical forests; enjoy the mystic scents of Araby; circle the globe to the Antipodes; wander over arid deserts and rest in the shade of sheltering palms; and sometimes even peep into the folk-lore, legend and superstition in which botany is steeped, probably for all time.

In the course of our travels in this wonderland we will not always meet with such lovely things as our Canadian June; for there is an ugly as well as a beautiful side to Nature. Nature is a stern dictatrix. She can be cruel and ruthless, demanding obedience of all on penalty of death, or what is even worse - in disease or affliction.

Yes, indeed there is a great struggle for existence in the plant Kingdom where, as with us, the victory is to the strong.

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No. 119. Fri. Jan. 27, 1939 -- Today's Fish Story - Lake Trout //

Canada's sea fisheries are so important that one is apt to forget that the inland fisheries of the Dominion are of great value. Not many people realize that trout fishing in Ontario alone has a market value of almost one million dollars. These trout are marketed fresh. The two popular varieties are the lake trout and the brook trout. The latter is a small game fish beloved by the angler, which frequents fresh water streams all over the country. The supply is small and the season runs from May to September. Brook trout average about one pound in weight and are highly esteemed as a delicate food fish.

The lake trout, however, is the great commercial type. It is the largest of all the trouts and is common to all inland lakes. In size it ranges from  $1\frac{1}{2}$  to 18 and 20 pounds, the trout caught in the fall running very large. The annual catch is valued at over one million dollars but the bulk of the catch comes from the Ontario lakes. Lake trout is available all year, with limited supplies from August to September and from December to April. It, too, is highly regarded as a food fish and is marketed fresh and frozen. It is usually caught by means of nets. It is a very beautiful fish and vies with salmon as the favourite fish of the sporting fisherman.

Fishing for sport, it should be remembered, has its economic side in a country of such famous game fish as the salmon of the Restigouche and other rivers of the Maritime Provinces, black bass and speckled trout of the Ontario highlands, the red trout of the Nipigon, and the salmon and rainbow trout of British Columbia. Considerable public revenue is derived from the leasing of waters in sparsely settled districts to clubs and individuals for sporting purposes. Several hundreds of guides find employment during the summer months leading their employers to the

waters where trout can be caught.

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No. 120. Sat. Jan. 28, 1939 -- Canada and Egypt

The territory of Egypt comprises what is called Egypt Proper (the north-east corner of the African continent including the valley and delta of the Nile, the Libyan or Western Desert and the Arabian or Eastern Desert), the peninsula of Sinai (forming part of the continent of Asia), and a number of islands in the Gulf of Suez and the Red Sea.

The "settled land area" of Egypt is 12,500 square miles, or less than half the size of New Brunswick, but the whole territory occupies over 363,000 square miles or an area slightly smaller than British Columbia. Of a population of 16 million, there are 226,000 foreign residents, including 76,000 Greeks, 56,000 Italians, 34,000 British and 24,000 French and Tunisians.

The Egypt of history, the ancient land of the Pharaohs, which was the great storehouse of art and learning and science of the ancient world, consisted of a very narrow strip all along the great length of the Nile. From B. C. 30 to A. D. 639 Egypt was a province of the Roman Empire, but in A. D. 640 Moslem invaders subjugated the Christian inhabitants and Egypt became a province of the Eastern Caliphate. From that time until the 19th century Egypt belonged to Turkey, but under a khedive or king of its own.

In 1882 a military revolt headed by an officer of the Egyptian army assumed alarming proportions and a British expeditionary force remained in the country as an army of occupation until 1936. During the Great War a British protectorate over Egypt was declared and the Khedive was deposed. The British protectorate terminated in 1922 and Sultan Ahmed Fuad was proclaimed King of Egypt. The present king is Farouk I, the boy king who succeeded his father in 1936 at the age of 16. Following closely on his accession to the throne, Egypt became a sovereign state by the Anglo-Egyptian Treaty of 1936, the military occupation was terminated and ambassadors between Great Britain and Egypt were duly accredited at the Courts of St. James and Cairo.

The country is of strategic importance due to the fact that the Suez Canal, the short-cut to India, runs entirely through Egyptian territory.

The cities of Egypt have still their "Arabian Nights" allure, with their street bazaars and Arabian and Turkish architecture. The capital, Cairo, has a population of more than one million. Its oldest part is the fortress of Babylon with its Roman bastions and Coptic churches. Alexandria, founded in B. C. 332 by Alexander the Great, was for over 1,000 years the capital of Egypt. Its great Pharos, or lighthouse, was one of the "Seven Wonders of the World." It is the centre of the cotton trade of Egypt. With a population of 682,000, it is the main commercial port on the Mediterranean. Port Said and Suez are important as northern and southern terminals of the Suez Canal.

Canada's imports from Egypt are important although not extensive, amounting to \$5,319,000 last year. We get much raw cotton from that country, amounting in value last year to \$379,000, although that was considerably less than we got the previous year. We also get rice, an immense quantity of onions, some gums, cigarettes and mixed textile products.



Our exports to Egypt in 1938 amounted to \$366,000, more than half of which were rubber manufactures. We also sent wood pulp, farm implements, electrical apparatus, wheat flour, apples, processed milk, paper and other items.

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No. 121. Sun. Jan. 29, 1939 -- Slate

Many people will remember that in the early years of the depression, some school boards, for economy's sake, reverted to the old slates and slate pencils for use in schools. We import several thousand dollars' worth of these slates and slate pencils still for that purpose. The best slate comes from the Penrhyn quarry in North Wales. It is the largest in the world, and the following description of it will be interesting to those who use or have used the old school slates.

The quarry extends to the very shoulder of Bronllwyd mountain, a total height from top to bottom of almost 1,200 feet. In all there are 19 terraces or galleries, each 60 feet high; the extreme length of the quarry is three-quarters of a mile, and at the broadest part it is more than half a mile wide. Every gallery has a name, derived either from a member of Lord Penrhyn's family or from some outstanding event of public interest at the time the gallery was opened; for example, Agor Boni or Bonaparte Floor, Sebastopol, Princess Mary, etc.

The history of Penrhyn Quarry dates back almost 400 years. The first order for Penrhyn slate on record was in 1570, when Sion Tudur addressed the Dean of Bangor asking for a shipload of slate.

At the present time more than 2,500 people are employed in the quarry and well over 1,000,000 tons of rock a year are extracted. The rock is loosened by blasting, with black powder which has the effect of loosening the slate without shattering it. Each blast may bring down anything up to 500 tons of rock according to the day's requirements. The slate that is loosened is then removed by manual labour with crow-bars, chisels and hammers. As soon as the commercially valuable slate has been separated from the rubble, it is transported along a narrow gauge railway in trucks, each of two tons capacity, to one of the main vertical shafts, when it is conveyed to the dressing sheds. It is of interest to note that as much as 90 per cent of all the material quarried is waste, which, to a large extent, accounts for the comparatively high cost of slate.

In addition to its use as a roofing material, Penrhyn slate is also employed by many of the principal manufacturers of electrical switchboards on account of the great mechanical strength and non-conducting properties. The switchboard equipment of both the R.M.S. "Queen Mary" and "Queen Elizabeth" includes Penrhyn slate slabs.

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No. 122. Mon. Jan. 30, 1939 -- Beryllium

A deep interest has been observed in recent years in the mineral beryllium. Possibly the most significant development in the beryllium industry during 1938 was the interest taken in the wider use of the element in munitions, more specifically in vital parts of aeroplane engines. Of interest, too, is the employment of beryllium for cementing steel. There is also the possibility that beryllium oxide films may be used to prevent tarnish on silver.

There are several known occurrences of beryl in Canada and shipments of several

tons have been made for experimental purposes from deposits in Renfrew County, Ontario, and the Piseau River area in Manitoba. That was in 1936, but no commercial shipments had been made in 1937.

Notwithstanding the great interest displayed by several chemical manufacturing companies, inventors, and investors and various rumors of new enterprises engaging in the production of beryllium on a more or less large scale, world output of beryllium probably still fails to exceed 500 tons a year.

Beryllium is virtually as hard as tempered steel, melts at about the same high temperature, yet is scarcely two-thirds as heavy as aluminium and resists atmospheric attack to about the same degree owing to its film-forming properties. The metal was isolated as a powder by Wohler a century ago, but attempts to produce molten metal that could be cast failed until 1920 when Hans Goldschmidt and Alfred Stock developed in Germany an electrolytic process yielding ingots that contained, after refining, 99.5 per cent Be and only minor impurities, chiefly iron, aluminium and carbon.

Unfortunately the unalloyed metal is brittle, and while this difficulty might be largely overcome by producing an even purer metal, the excessively high cost (\$35 to \$50 a pound) virtually eliminates it for structural purposes. Efforts to produce light, strong alloys using only small additions of beryllium to aluminium or magnesium have not been successful commercially, and industrial developments have been confined almost exclusively to the hardening of heavy metals, chiefly copper and to a minor extent nickel and other non-ferrous metals. Almost the only use for the metal itself is for "windows" for x-ray tubes and electrodes for neon signs; the targets for the latest atom-smashing cyclotrons also are made of beryllium.

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No. 123. Tues. Jan. 31, 1939 -- Canadian Birch

Canadian birch will line the walls of the main booking hall in Imperial Airways' new terminal building, under construction near Victoria Station in London. The wood, beautifully grained, is light and silky in finish. It is one of a number of Empire woods used in the building.

Nine species of birch are found in Canada, but only two are of much commercial importance, namely, yellow birch and white birch. Another British Columbia species, western white birch, grows to quite a large size, but occurs in such small quantities as to be of only limited value for local use. The remaining birches are, generally, so small that they are of little value except for minor purposes.

Yellow birch is found from the Maritime Provinces to the east side of Lake Superior, also from the west side of that lake to the Lake of the Woods. It is the most important commercial hardwood in Canada, consideration being given to its fine qualities and its abundance. It is the largest of the birches native to Canada, reaching sometimes 100 feet in height and three feet in diameter. The sapwood is light yellow in colour and the heart-wood a distinctive reddish brown. It is similar to white oak in hardness but is not so hard as maple. It takes a smooth finish, is easily worked under tools and takes a good polish.

White birch rarely exceeds 70 feet in height and 18 inches in diameter. It is often called the canoe birch, and is creamy in colour. It is found from the Maritimes to the Yukon. It is not durable in an exposed position.









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DEPARTMENT OF  
TRADE AND COMMERCE



CANADA

**A FACT A DAY ABOUT CANADA**

FROM THE

**DOMINION BUREAU OF STATISTICS**

**FEBRUARY 1939**

**FIFTH SERIES**



Published by Authority of the HON. W.D. EULER, M.P.,  
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James Muir,  
Editor.



A Fact a Day about Canada

from the

Dominion Bureau of Statistics

No. 124. Wed. Feb. 1, 1939 -- February

February, the shortest month of the year, derives its name from an old Roman word meaning "to purify," because in this month the people were purified for religious festivals which came in the following months. The 15th of February was set aside for the celebration of the great Roman feast of expiation and purification. The second month is said to have been introduced into the Roman calendar by Numa; it is the shortest month of the year, having 28 days in common years and 29 in leap years.

The Anglo-Saxons called February "Sprout-Kale" from the sprouting of the cabbage at this season. It was also referred to in years past as "February Fill-Dyke", no doubt because of the heavy rains at this period.

This month contains a holiday dear to all children -- St. Valentine's Day on the 14th -- one of the gayest times of the year.

The primrose is the special flower for February, and people who have had the privilege of walking in the woods in parts of Great Britain and the adjoining continental countries will remember with delight the profusion of yellow primroses carpeting the countryside. It is one of the most delicate and charming of all wild flowers.

The birthstone for February is the amethyst. It is a violet or purple variety of quartz known from earliest times. The ancient Egyptians used it as a gem-stone and it was largely employed in antiquity for engraved designs. It is a widely distributed mineral, but the best fine, clear specimens fit for cutting as ornamental stones come chiefly from the Uralian and Siberian mines of Russia. Uruguay, Ceylon and Madagascar also produce rich coloured, clear amethysts. The Greeks believed that the stone had the power to prevent intoxication. For this reason wine was drunk out of sparkling amethyst cups. In Biblical times it represented justice and courage and was the stone for the tribe of Dan, which stood for judgment. It is used for episcopal rings.

Some great events have occurred in the month of February. France surrendered Canada by the Treaty of Paris in 1762; the first Parliament of Great Britain and Ireland met in 1801; the Victoria Cross was instituted in 1856. Among the famous men born in February were Charles Dickens, Thomas A. Edison, Galileo, Victor Hugo, Abraham Lincoln, Mendelssohn, Handel and Sir Robert Peel.

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No. 125. Thurs. Feb. 2, 1939 -- The Uses of Asbestos

Microscopic investigation has shown that asbestos fibre is probably the finest in existence, a property which, when better understood, may lead to valuable new applications of this material. As a result of work by the National Research Council, knowledge of the physical nature of fibre aggregate and the effects of milling processes on asbestos is being definitely increased and put on a sound basis. Considerable work has already been carried on in the Council's laboratories with a view to finding new uses for the mineral, especially for the lower grades, and for the waste rock, which among other things is a potential source of magnesium metal and magnesium salts.

Chrysotile is industrially the most important member of the asbestos family and constitutes about 98 per cent of all the asbestos used commercially. Canada has long been the chief source of world supply of the mineral, the output being obtained almost entirely from the Thetford district in Quebec. Russia and Rhodesia are the only other important producers.

Asbestos mining in the province of Quebec is now in its sixtieth year, the first shipment of the mineral from Thetford Mines having been made in 1878 from a mine which is still prominent and in full production. Canadian asbestos as produced commercially in Quebec is of the chrysotile or serpentine variety of high quality, and reserves of milling grade asbestos rock are reported sufficient for many years of commercial fibre production.

As regular production in other countries did not commence until much later, the development of the Canadian deposits and the introduction by Canadian operators of mechanical means of preparing the fibre may be said to have laid the foundations of the modern asbestos industry, which has seen its greatest development in the United States, the United Kingdom, and, recently, in Russia.

Although a constituent of many products, asbestos fibre is used chiefly in conjunction with Portland cement, metal, rubber, graphite, oil, grease and bituminous materials, the five chief types of asbestos products being textiles and textile products, building materials, heat and sound insulating materials, molded products, and miscellaneous products. Textiles were perhaps the first asbestos products, having been made by the ancients, but it was the advent of the steam engine and the automobile that was responsible for this large branch of the industry. At present the manufacture of automobile brake-linings and clutch-facings is the largest single outlet for asbestos textiles. In the building industry, asbestos is used in light-weight roofing and siding of very pleasing appearance.

Canadian asbestos production totalled almost 300,000 tons last year, although in 1937 (the peak year for the industry) it was more than 400,000 tons.

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No. 126. Fri. Feb. 3, 1939 -- Today's Fish Story - Modern Fishing Boats

We shall have something to say about cod next Friday, but perhaps before that time we might say a word or two about the kind of vessel that is now being used by the progressive fishermen of Nova Scotia.

There have been put into service recently two beautiful sister ships -- one the Routilier and the other the Connor. They are schooner rigged, but whereas the old fishing schooner was propelled primarily by sails with diesel motors as auxiliaries, the Routilier and her sister are primarily propelled by the latest of diesel motors and use their sails only in steadying them and for jogging about while waiting for dories. The engines drive the vessels at 10 knots, and the engine room is a brightly lighted and painted machine shop with various auxiliaries such as water pumps, compressors, and electric light plants.

The lines of these boats, too, are different. They are built for fresh fishing and embody certain changes of hull design to better fit them for the task. The lines are sleek and beautiful and they are great sea boats. The fish holds are insulated and in the summer will be fitted with refrigerating machinery to insure the catch keeping in the best possible condition. The decks are fitted with the very latest in winches and deck engines, and there will be no forking of fish out of the dories; machines will do this job.



The quarters for the captains and crews are cheerfully painted, warm and comfortable. They can talk to shore over the radio telephone and the shore can similarly talk to them. In the after cabin of each ship is a big oak chest containing the latest in two-way radio equipment. The ships have direction finders and depth sounders -- the same as used by the British Navy. They can always find their position no matter how thick the fog, and they know when they have reached the depth of water in which it is desired to fish.

In the fierce competition for world trade these new Canadian vessels will have an equipment excelled by none. Over twenty-seven million dollars are invested in commercial fishing boats of all kinds used in the Canadian fishing industry, and 85,000 persons are engaged in that business.

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No. 127. Sat. Feb. 4, 1939 -- Canada and Roumania

Roumania is a kingdom of south-eastern Europe. It has its origin in the union of the Danubian principalities of Wallachia and Moldavia, with the addition of a strip of Southern Bessarabia, under the Treaty of Paris of 1856. The principalities remained separate entities under the suzerainty of the Turkish Empire until 1859, when Prince Alexandru Ion Cuza was elected Prince of both Principalities, still under the suzerainty of Turkey. Prince Cuza abdicated in 1866 and was succeeded by Prince Charles of Hohenzollern-Sigmaringen, in whose successors the crown is now vested. In 1881 the former principality was recognized by the great powers as a Kingdom.

Roumania is not a "Balkan" state. She took no part in the military operations of the Balkan League against Turkey in 1912-13. In the Great War Roumania fought on the side of the Allies, and after many vicissitudes, due mainly to the sudden collapse of the Russian armies in 1917, she emerged in triumph at the cessation of hostilities. Her territories were greatly increased as a result of the war, and the pre-War area of the kingdom of 74,000 square miles is now estimated at 123,000; the 1915 population of about 8,000,000 has been increased to nearly 20,000,000.

The dominating religion of Roumania is that of the Greek Orthodox Church. The Government is that of a constitutional monarchy, the Legislative Assembly consisting of a Senate and Chamber of Deputies, each elected for four years. The soil is among the richest in Europe, growing heavy wheat, barley, rye, maize and oats crops. Her vines and fruits are abundant. The climate is intensely cold in winter and very warm in summer. The forests and the mountainous regions are extensive and the country is rich in minerals, particularly in petroleum. All large estates have been expropriated and divided among the peasants.

Service in the army is universal and compulsory. During the Great War 900,000 men of all ranks served in the Army, of whom over 25 per cent were killed or returned as "missing." At the resurgence of November, 1918, an army of 400,000 was again in the field and this force was the deciding factor in the Roumano-Hungarian question, driving the Bolshevik dictator (Bela Kun) into exile from Budapest. There is a small navy on the Black Sea and on the Danube.

Education is free and compulsory and there is a Government high school of commerce, as well as universities. Bucharest, the capital, is a picturesque city with a population of about 700,000.

In the Canadian population there are 5,500 people who were born in Roumania, and 30,000 more of Roumanian origin.

Canada's trade with Roumania is very small. Our imports in the fiscal year 1938

amounted to \$87,000, of which \$50,000 was accounted for by gasoline. This was much less than in the previous year when the gasoline imports were \$124,000. Other imports were nuts and seeds. Our exports to Roumania were about \$60,000, chiefly rubber tires, ploughs and other farm implements.

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No. 128. Sun. Feb. 5, 1939 -- Cherries

The best varieties of cherries can be grown in Canada only in the most climatically favoured parts, states the Department of Agriculture. They are too tender either in their wood, their fruit, or both, to be grown elsewhere. There are a number of wild species, both native and introduced, that are extremely hardy. The fruit of most of them is considered of no commercial value in any but the coldest parts of the country, although selection with a few over a long period of time has produced acceptable varieties that have been widely planted.

The possibilities of improvement by selection are strictly limited by the variation within the variety or species, and hybridization must be resorted to for further results. All species are of potential value in this respect and their utilization is only limited by the crosses that can be effected.

This is an important pronouncement and will be interesting to those who have watched the progress that has been made in recent years by fruit growers in Canada in developing species that are an improvement upon old varieties or wild varieties of the species. For example, every Canadian child is familiar with the choke cherry and the black cherry. They are to be found on almost every old roadside and in almost every bush, but the Department of Agriculture states positively that no way has yet been found of utilizing the hardiness of the native species -- the pin cherry, the choke cherry and the black cherry -- because they will not cross with any known species possessing the size and quality they lack. There are possibilities, however, in the utilization of a closer related, large fruited Central and South American cherry for the improvement of the black cherry. Great strides have been made, too, with the sand cherry hybrid which possesses a measure of the good quality of its cultivated parent coupled with a good deal of the hardiness of its wild parent. High quality and large size is confined almost entirely to the sweet cherries and a few of the sours.

Cold-resistant varieties of the sour cherry are available which though very acid may prove valuable for breeding purposes. The sweet cherry does not hybridize at all readily with any of the hardy species so far tried. Hybrids with the sour cherry have been produced but they were almost without exception entirely sterile. The only real hardy species with which it has been known to hybridize is the sand cherry, a line which may prove very productive.

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No. 129. Mon. Feb. 6, 1939 -- Mica

The micas form an important group of minerals. They are readily split up into thin flakes, and are elastic and flexible. They have a pearly lustre and range in colour from black to brown, violet, yellow and green. Some are colourless. Muscovite, or white mica, may be obtained in sheets two feet in diameter, the transparent type being preferred.

Sheet mica was formerly used for windows and is now employed for lamp chimneys,



stoves, sound diaphragms and as an insulator in electric apparatus. Ground mica is used in the manufacture of wallpapers, as a lubricant in combination with grease and oil, and as an absorbent for glycerine in the manufacture of dynamite and in the roofing and rubber trades.

Fifty per cent of the world supply of higher grade micas comes from India. The United States, Mexico, Madagascar and Canada are important producers. The Canadian production is confined almost exclusively to the "amber" mica and the production region lies for the most part within a radius of about 100 miles from Ottawa. The better grades of Canadian amber mica are considered superior in point of heat-resistance to much of the Madagascar product, and the improvement in trimming practice has resulted in a revised interest by the British trade in Canadian supplies of sheet mica for heaters as well as for use in heavy-duty spark-plugs for aeroplanes. The recent general improved demand for mica is largely attributable to increased consumption for armaments.

The production of muscovite in Canada has been negligible. Small amounts have been discovered occasionally as a by-product from feldspar mining but, in general, the proportion of sound, merchantable sheet mica in Canadian pegmatites has proved too low for profitable mining for this mineral alone.

Mica mining in Canada has been at a low ebb for a number of years past, production being restricted to a few major operations working old, established mines. This has been in marked contrast to the situation in earlier days of the industry, when considerable contributions were made to the total output by farmers and others who worked small mines on their properties during the off-season.

Mica is a comparatively insignificant mineral from the point of view of tonnage of production. It is, however, a vital key mineral in industry, particularly in all forms of electrical equipment, in which no substitute for it has ever been found. Although the muscovite variety fills by far the largest share of the world demand, amber mica is essential for certain purposes, more especially where high heat-resistance is demanded. Although already drawn on extensively, Canadian reserves of amber mica are held still adequate to furnish important supplies and any material price advance would probably result in a revival of mining and increased production.

In 1938 Canada produced 378 tons of mica valued at \$75,413. This was almost 600 tons less than the previous year.

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No. 130. Tues. Feb. 7, 1939 -- Canada's Most Northerly Doctor

Canada's most northerly doctor is stationed at Aklavik, more than one hundred miles north of the Arctic Circle, where hospitals and schools operated by the Anglican and Roman Catholic Missions provide for the health and educational requirements of the Indians and Eskimos. The population served by these institutions extends from the Yukon-Alaskan boundary easterly along the Arctic Coast and includes those living in the rather densely populated Mackenzie Delta area. In the course of his regular patrols the government doctor travels about 1,800 miles by dog team and about the same distance by schooner each year. In addition, he uses aeroplane transportation for emergency cases.

The hospital operated at Aklavik by the Anglican Mission has a normal capacity of forty-eight patients, and boasts electric lighting, X-ray, dental equipment, operating room, and other modern facilities. Likewise the Roman Catholic Mission hospital, with accommodation for thirty to thirty-five patients, is electrically lighted and equipped with X-ray, a modern operating room, and a number of small wards

which allow for the isolation of cases according to their sex or the disability from which they are suffering. These hospitals are capable of taking care of any type of case which may arise in the area.

The Anglican boarding school has accommodation for one hundred pupils, while a similar institution operated by the Roman Catholic Mission can accommodate eighty pupils. At both of these schools the native children received education suitable to their needs, and are built up in physique and bodily health, factors which should generally improve the natives of the next generation to a marked degree. Indeed, as a result of medical assistance and educational facilities, the mortality, especially of infants, has decreased and the native population is increasing. The Eskimo population in Canada at the 1931 census was 6,000.

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No. 131. Wed. Feb. 8, 1939 -- Glacier Crashes

The collapse of Hector Glacier in Banff National Park, Alberta, last autumn, provided a phenomenon of rare occurrence in the Canadian Rockies. Situated about twelve miles north of Lake Louise on the south-east slopes of Mount Hector, the glacier slipped from its rocky moorings high on the side of the mountain, and crashed in a great avalanche into Molar Creek valley, uprooting trees and carrying before it everything in its path.

Unwitnessed by man, the avalanche was discovered by a local guide returning with a party from a hunting trip outside the park borders. The glacier was found to have travelled a distance of about two miles and had spread over the valley in a broad carpet of ice a couple of hundred feet deep. Two weeks prior to its discovery, when the region was visited by fishermen, the glacier hung in a glistening mass high on the rocky slopes. Old-timers in the district state that a similar occurrence cannot be remembered in forty years.

Mount Hector is one of the massive peaks that may be viewed by travellers on the new Banff-Jasper Highway under construction between Lake Louise and Jasper. It rises to a height of 11,135 feet above sea level, and forms a landmark for many miles. The completed section of the highway in Banff Park which is now open to the public, skirts the western slopes of Hector Mountain for a distance of nearly ten miles. Continuing past Bow Lake, over Bow Pass and down into the Mistaya River Valley to the Saskatchewan River, it provides a magnificent scenic drive of nearly fifty miles. The glacier, however, could not be seen from the highway, as it was situated over the crest on the eastern side of the mountain.

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No. 132. Thurs. Feb. 9, 1939 -- Canadian Uranium

Canada is now an important source of uranium, which has long been used by the ceramic industry, both on this continent and abroad, as the colouring agent in the production of certain shades of yellow and deep orange in glazes and glass. Uranium is obtained as a by-product in the processing of radium from pitchblende, and it was not until after the discovery and development of rich deposits of pitchblende in the Great Bear Lake area, N. W. T., and the erection of a refinery at Port Hope, Ont., by the Eldorado Gold Mines Limited, that Canadian uranium entered world markets, which previously had been supplied almost entirely by Belgian producers.

In the extraction of radium from pitchblende concentrates, large tonnages of



uranium in the form of sodium uranate and black oxide of uranium are now produced at the Port Hope refinery. Sodium uranate is usually marketed in two forms, one called "yellow" and the other "orange." For the production of yellow shades in glass the yellow sodium uranate is usually used, while for the production of the deep orange shades in glazes, the orange sodium uranate is generally preferred.

During the early stages of development the production of uranium salts that would meet market competition from other sources presented a serious difficulty to the Eldorado Company. However, this and other incidental problems which arose in connection with the introduction of Eldorado sodium uranate (both orange and yellow) into the ceramic field were successfully solved in co-operation with laboratory workers of the Department of Mines and Resources, with the result that uranium products from Canada's Northwest Territories mine are now satisfactory in all respects for use in the ceramic trade.

In recent years the popularity of the bright orange colour obtainable by the use of uranium in the manufacture of such articles as so-called bungalow tableware, faience tile, terra cotta, stoneware (jugs and bowls) and art pottery has created a very attractive market in the United States and Europe for uranium compounds. Uranium salts now command a price of well over one dollar per pound, and the Canadian production of uranium products now runs into hundreds of thousands of pounds a year. The entire Canadian output is mined about forty miles south of the Arctic Circle and is transported more than 3,000 miles to Port Hope, Ont., for refining.

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No. 133. Fri. Feb. 10, 1939 -- Today's Fish Story - Cod

The cod is vastly important in the fisheries of Canada's Atlantic coast. In fact, it was a fish story that was directly responsible for the discovery and early settlement of North America. It is one of the outstanding world romances of industry and enterprise and it led to the oldest organized industry in the modern Canadian domain.

On returning to Bristol in 1497 John Cabot told the Englishmen that the sea was so covered with fish off the Newfoundland coast that they could be caught "with baskets, a stone being attached to make the basket sink in the water." The next year his son Sebastian reported that the cod was so thick they "sometimes stayed his ships."

The Cabots, father and son, may very well be described as Canada's first publicity men. As a result of the stories they told, the early French fishermen, in quest of sea-food for their people, made regular voyages to the cod banks, and Cape Breton, one of the oldest place names in America, is a memorial of these early French fishermen, whose vessels returned to France with from 30,000 to 50,000 cod in their holds. The Spanish and Portuguese fishermen were but little behind.

These deep sea fisheries lying off the coast of Nova Scotia and Newfoundland are visited regularly today by fishermen from Canada, the United States and Europe. The Canadian vessels, in which we are more particularly interested, are splendid examples of the conquest of the sea by man. These beautiful home-yard ships carry from 12 to 20 men operating with trawl lines from dories or by nets from the trawlers, and they are manned by sailors who have no superiors anywhere. Sometimes they remain at sea for months and very seldom do they come to grief. Their annual catch is from 150 to 200 million pounds. Only two other fish are landed in Canada in similar quantities -- the salmon and the herring -- and only salmon and lobster have a greater value. Twelve of the banks or uplands on the ocean's floor have an area of 70,000

square miles. The Grand Banks is the greatest of these fishing-grounds.

The bulk of the codfish catch is salted and dried for export, but vast quantities are marketed fresh for food. The cod varies in size from three to 75 pounds.

There is also a variety of codfish called grey cod which is caught in the Pacific Ocean by British Columbia fishermen, and which is similar in appearance to the Atlantic species. There is a steadily increasing demand for it in the western provinces.

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No. 134. Sat. Feb. 11, 1939 -- Canada and Iceland

Iceland is a large volcanic island in the North Atlantic with an estimated area of over 40,000 square miles, or about twice the size of Nova Scotia; it is larger than Ireland. The population in 1934 was about 115,000. It is a free and independent state under the sovereign of Denmark and the Assembly has been more or less independent of the Government at Copenhagen in internal questions since 1904. Reykjavik, the capital, has a population of 33,000.

Considering its high altitude and situation, Iceland has a relatively mild climate. The south and west coasts are washed by the Gulf Stream and the north by an Arctic current which frequently brings with it a quantity of drift ice and thus exercises a considerable effect upon the climate. The clearness of the atmosphere has been frequently remarked.

Iceland was discovered by the Scandinavians in 850, but it had long been inhabited by a small colony of Irish Culdees. The Scandinavians, however, in the course of sixty years established some 4,000 homesteads. Four great noblemen from Norway settled with their dependents in the southwest. Then there came from the western islands Queen Aud, widow of Olaf the White, King of Dublin, preceded and followed by a number of her kinsmen and relatives, many like herself being Christian, who settled the best land in the west, northwest and north and founded families who long swayed the destinies of Iceland.

There also came from the western islands a fellowship of Vikings seeking a free home in the north. They had fled from Harold Haarfoger's rule, and colonized the west in the Viking times. Early in the tenth century there were a few more incomers direct from Norway, but among the immigrants there was no small proportion of Irish blood. In the year 1100 there were 4,500 franklins, that is about 50,000 souls, on the island.

The unit of Icelandic politics was the homestead with its franklin ownership. There was chieftainship; the chief who had led a band of kinsmen and dependents to the new land naturally became their leader, but he was not a feudal lord. There were but two degrees of men, free and unfree. During the heathen days many great chiefs passed part of their lives in Norway at the King's court, and trade was from the first almost entirely in Norse hands.

The union of the three crowns transferred the practical rule of Iceland to Denmark in 1280 and the old treaty of union by which Iceland had preserved its essential rights was disregarded by absolute Danish monarchs. For hundreds of years the story of Iceland was one largely of misfortune. The people had peace, but with few of its blessings. After the Reformation the Lutheran clergy became the most powerful class of the land. The island suffered at the close of the 16th century and the opening of the 17th from English, Gascon and Algerine pirates, and the 18th century was the most gloomy in Iceland's annals with famine, disease and volcanic eruptions. The population at this period was reduced by about one-fourth.



Gradually the ideas which were agitating Europe spread through Scandinavia into Iceland. The continental system which by its leading to the blockade of Denmark caused great distress to Iceland, was neutralized by the intervention of the British Government. Trade and fisheries grew a little brisker and at length the turn came.

There are in Canada 20,000 people of Icelandic origin, located mainly in the west. We have had an Icelandic member of parliament, and the Icelanders in general are regarded very highly as immigrants and settlers.

The principal products of the island are sheep, cattle, ponies and fish and the imports consist of almost all the necessities of life.

Canada's trade with Iceland is carried on indirectly, mainly through British and Scandinavian channels. One item in our imports which is always interesting is Icelandic moss, of which something was said in a previous article.

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No. 135. Sun. Feb. 12, 1939 -- Miette Hot Springs

Old Canadian geographies used to tell about the geysers or hot springs of Iceland, and in some of them pictures were shown of these wonders of nature. They were remarkable to the youthful mind and it seemed impossible that in a country given such a name as Iceland, hot water should spout from the bowels of the earth. However, hot springs occur quite frequently all over the globe and we have some in Canada.

Situated high in the Miette Range of the Rocky Mountains, the waters of the Miette springs pour from the limestone rocks at an estimated rate of 170,000 gallons every twenty-four hours. These famous hot springs are among the hottest on the continent, reaching a temperature of 126 degrees Fahrenheit. Believed to have been known and used by the Indians and early travellers for medicinal purposes, the springs are now held in high regard for the treatment of rheumatism and kindred ailments.

The transformation of the Miette Hot Springs into an attractive and modern establishment, where the curative waters of the sulphur springs may be enjoyed, is a remarkable example of man's ingenuity in making use of the natural wonders of Jasper Park. In place of the old-time pools of moss-chinked logs and boulders now stands a modern bathing establishment in a narrow canyon at an altitude of 4,500 feet above sea level. The new structure combines a large outdoor swimming pool seventy-five feet long and thirty feet wide and a bathhouse provided with steam rooms and plunge baths, as well as showers and sixty-eight dressing cubicles. The pool is kept at a temperature of one hundred degrees, and is flood-lighted and equipped with submarine lighting for night bathing.

There are other hot springs in the Rockies whose possibilities are just being developed. In the Canoe Valley are found the Canoe River hot springs, situated by a small lake lying at the foot of the mountains and surrounded by large cedar trees.

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No. 136. Mon. Feb. 13, 1939 -- Feldspar

Feldspar is an important rock-forming mineral. It is used chiefly in the manufacture of vases, cornices, cups, articles of porcelain, terra-cotta and pottery in general. A few varieties are handsome and are cut as gem stones. It varies in colour; some being green, others almost white but reflecting a brilliant metallic glitter, while some are glass clear. A valuable outlet for this important mineral

is the glass industry; for feldspar melts without becoming entirely fluid and when cooled forms a strong, colourless or only slightly coloured glass. Feldspar also finds a place in the manufacture of electrical insulators and similar forms of porcelain.

With the exception of a few thousand tons mined since 1934 in Manitoba and a comparatively small quantity that came at one time from Nova Scotia, all of Canada's feldspar production so far has come from mines in Ontario and Quebec, but truck transportation has done much to extend the limit of road haul from mine to rail or mill, and it is quite possible that the area of production may be widened. The tendency at present is to be regional. In the earlier days of the industry the most important regional centre of production was the Verona district in Frontenac County, Ontario, with a number of mines, most of them now inactive. Later, the Hybla, Mattawa, Sudbury, Parry Sound and Bathurst districts in Ontario, and the Buckingham district in Quebec all, in turn, became prominent. At the present time most of the production is derived from the two last areas. Mechanical (magnetic) methods of cleaning spar to the grade of purity demanded by the trade, although now practised by certain producers in the United States, have not as yet been adopted at any feldspar mine mill in the Dominion, sole dependence being placed on cobbing and hand-picking.

Production of feldspar in 1938 was over 14,000 tons valued at \$130,000, but this was one-third less than the tonnage produced in 1937.

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No. 137. Tues. Feb. 14, 1939 -- St. Valentine's Day

It is nasty to be a debunker. On this date a year ago we had a little story about St. Valentine, and not long after that a communication came to this effect: "The association of the lovers' festival with St. Valentine seems to arise from the fact that the feast of the saint falls in early spring and is purely accidental."

Is it not unnecessary at this late date, when it is really impossible to say whether tradition is right or wrong, to attempt to cast doubts upon one of the most beautiful stories of the ages? Many years ago when the writer of this note was a little boy, there was an attempt made by antiquarians to debunk the charming story of Robert the Bruce and the spider. But it did not go over very well. Even the most matter-of-fact writers spurned the effort to destroy a story which has been a text for encouragement by all generations since then all over the world. So the attempt failed.

Now the story of St. Valentine is also a very beautiful one. Valentinus was a Roman priest, the bishop of Spoleto, who was martyred on February 14, 271 A. D. He is regarded as the patron saint of lovers. It is generally agreed that he was so famous for his love and charity that the custom of choosing valentines upon his festival took its form.

The frightfully cruel Claudius was the Roman emperor at the time. Near his palace was a Greek temple whose high priest was Valentinus. He was very popular and his church was always crowded with worshippers. War broke out and the citizens were summoned to battle. The wars continued year after year and many hesitated to join the ranks -- the married men did not want to leave their families and the unmarried men openly demurred at leaving their betrothed. Claudius was furious and issued a decree that there should be no more marriages and engagements should be broken.

One day the good priest Valentinus married a couple in secret, standing under



the holy altar of his church. Other couples came to him and he married them. Soon many marriages had taken place.

When Claudius learned of the matter he ordered Valentinus cast into a dungeon. Powerful friends warned Claudius of the grave consequences that would follow if he injured Valentinus. However, it is said that Valentinus was beaten with clubs and then beheaded. His remains are in a church at Rome. To keep his memory green many couples have been married on St. Valentine's Day, February 14th.

It is notable that the sending of greeting cards on certain memorial days of the year is increasing in Canada. We have Christmas and New Year, St. Valentine and Easter greetings -- these are the most popular. The production of Canadian greeting cards is valued at over one million dollars annually.

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No. 138. Wed. Feb. 15, 1939 -- Lasting Ties

How the life of various woods used for railway ties has been increased from two to four times as a result of preservative treatment methods developed by the National Research Laboratories, is explained in a brief note, which states that experiments have been conducted over a number of years with particular attention to those species not readily penetrated by preservatives.

"Canadian railways", it goes on, "purchase from nine to twelve million ties annually, of which some four million receive preservative treatment. To treat these ties so as to increase their service life, twelve large treating plants have been constructed at strategic points across the Dominion. The ties are placed on small trams and run into long steel cylinders where they are impregnated with preservatives under pressure. The preservatives used are creosote (diluted with tar or crude oil) and zinc chloride. Since zinc chloride is a water soluble salt, it is leached out in wet locations, and its use in Canada is restricted mainly to portions of the Prairie Provinces which have a low rainfall.

"Although fifteen species of timber have been used for railway ties in Canada, those now purchased are mostly jack pine, Douglas fir, hemlock, yellow birch, hard maple and beech. Hardwoods such as birch, maple and beech are not used untreated, since under such conditions their life would only be about five years. With a service life of twenty to twenty-five years when treated, it is now possible to use these and other non-durable species."

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No. 139. Thurs. Feb. 16, 1939 -- Growth of Canada to 1851 - 1

The original settlements in Canada and along that part of the Atlantic seaboard which is now the United States were made in the first half of the seventeenth century, and since this was a period of political and religious warfare in Europe, the early colonists had been trained to the use of arms. When they reached the new world, they found themselves very generally faced by the hostility of the Indian tribes whose hunting grounds they were taking over, and the first century of settlement was a period of struggle against these tribes, in the course of which thousands of lives were sacrificed. This meant that the early settlers of Canada were forced to live close together for purposes of protection and mutual support. When the seigneuries of French Canada were established on both sides of the St. Lawrence river between Montreal and Quebec, the seigneur had to establish at the centre of his small domain on the river

bank a fortified place which would serve as a refuge in case of an attack by the Indians, such as is recorded in the early life of Madeleine de Verchères.

From this necessity of protection arose the riverside villages and the close settlements of the French Canada of today, while more important aggregations of populations settled from the earliest times at Quebec, Three Rivers and Montreal, which were founded respectively in 1608, 1634 and 1642. When the first census of New France was taken in 1665 and 1666, the settlement which is now Quebec City contained 547 people, while Three Rivers and its suburbs showed a population of 455 and Montreal and its suburbs 625, these three settlements having between them more than one-half the total population of the colony, 3,215 persons.

Then followed a period of colonization owing to the foresight and the energy of Colbert in France and Talon in Canada. By 1681 the population of the colony had trebled, reaching 9,677, of which Quebec had 1,345 and the Island of Montreal 1,418. In the following years, the French colony grew mainly by natural increase. In 1698 the total French population was 18,815, which, together with 1,540 civilized Indians, gave a grand total of 15,355, of whom Quebec had 1,988 and Ville-Marie (Montreal) 1,185. In the Census of 1706 Quebec was credited with 1,771 and Montreal and its suburbs with 2,025 out of a total population of 16,417. In 1739 Quebec and its suburbs had 4,603 and Montreal and its suburbs 4,210 out of an aggregate population of 42,701, and the Census of 1754, the last taken under the French régime, shows Quebec as having a population of 8,001, Montreal 4,000 and Three Rivers 808, out of a grand total of 55,009 in the colony. Thereafter, the disturbed conditions in the colony prevented the taking of a census until after the conquest and the final surrender of the colony to the British.

The next census, taken in 1765 by the British authorities after the cession, gave Quebec a population of 8,967 and Montreal 5,733, out of a total population of 69,810 in the colony as a whole, so that Quebec was still a much larger place than Montreal. Quebec continued to be the centre of the colony and Montreal its western outpost. The Lachine rapids, interrupting navigation on the St. Lawrence river, marked the western limit of the area of settlement as contrasted with the much greater areas occupied only by the Indians and visited by the fur traders.

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No. 140. Fri. Feb. 17, 1939 -- Today's Fish Story - Herring

The herring belongs to a genus which is the most widely distributed of all fish. The commonest members of the herring family, besides herring itself, are the sprat, the pilchard and the shad. Herrings are caught in great numbers in the North Sea, in all the waters of the British Isles and in the Baltic. In the Atlantic they are found from north of Cape Cod to Greenland, around Iceland and in the White Sea. They are also found in the North Pacific.

Herrings deposit their eggs in masses on the sea bottom on stones, weeds, rocks and gravel. On hatching the larvae are carried from the spawning grounds by winds and currents to various coasts where they appear as "whitebait" herring at the end of their first year. The second year is spent in the ocean or sea and during this time they grow rapidly. It is not until they are becoming old that they appear in shoals off the coasts. The old conception of herring migrations was that all the fish of the North Atlantic and neighbouring waters wintered within the Arctic Circle and in spring came south in large columns to spawn. It is now known that the movements are more limited. On the scales of the herring there are concentric annual rings, like those on trees, from which age can be determined, and investigation has shown that mature herrings visit the same ground each year until each year-class in turn becomes extinct.



In addition to being sold fresh and frozen, large quantities of herrings are cured in pickles. Smoked herring in the form of kippers, bloaters and skinned and boned strips is much in demand. It is also available as canned fresh herring with or without sauces, and as canned kippered herring. The iridescent substance guanin from their scales is used in the manufacture of artificial pearls.

The herring is caught with nets of various kinds, and the average weight is from eight ounces to one pound.

In Canada, our sardines are young herring and those that are caught in the Bay of Fundy around the shores of Charlotte County, N. B., are particularly suited by size and flavour for canning purposes.

Lake herring, or sisco, is a fresh water variety very similar in appearance to the sea herring, though it is really a member of the whitefish family. Canadian fishermen catch about 140,000 tons of herrings annually.

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No. 141. Sat. Feb. 18, 1939 -- Canada and Poland

The modern republic of Poland was proclaimed at Warsaw in November, 1918. The present area of the republic may be estimated at 150,000 square miles, which is considerably larger than the area of the British Isles. In population it occupies sixth place amongst the countries of Europe, coming after Russia, Germany, Great Britain, France and Italy. The capital is Warsaw with a population of over 1,200,000, so that it is one of the great cities of the world.

The country, which was a reconstitution within the limits of the 18th century Polish Commonwealth, had a population in 1931 of over 33,000,000, of whom  $22\frac{1}{4}$  million are Poles. The constitution of the new Polish state left over 2,000,000 Poles in the neighbouring countries of Russia, Germany and Czecho-Slovakia, while some three million have emigrated to France, Brazil and the United States. With the exception of the Kashubes of Pomorze, who are a relic of the old Pomeranians, the Polish people form one ethnological group. The Poles are more uniform in language and customs than any other great nation.

Although industry has developed rapidly, agriculture is still the predominant occupation. Sixty-five per cent of the people earn their living by cultivation of the soil. The World War caused such devastation in all parts except the western provinces that agriculture received a blow from which it took years to recover. It must be remembered that the war in Poland lasted until 1921.

The greater part of Poland is owned by peasant proprietors. As a political force Communism was killed by Polish nationalism in the Russian war, but Socialism of the Marxian type is important both in politics and in trade unionism. There are important oil wells which Polish enterprise, aided by Canadian experience, has developed. The individual rights of all citizens, including those who are not Poles, have been carefully safeguarded, and free education has been made universal and compulsory. Secondary and university education is conducted on a high level. The leading religious organization is the Greek Orthodox Church, followed by the Lutheran and Calvinist churches. There are close to three million Jews among the inhabitants. The Poles have a highly trained army and a small navy for coastal defence. The training doctrine follows the French line.

The free city of Danzig is within the Polish customs area, free transit for Germany being guaranteed. A purely Polish port has also been constructed at Gdynia,

north of Danzig.

Much of the progress made by Poland in the last few years is due to the energy, enthusiasm and good judgment of Jan Paderewski, the world's greatest living pianist; who was president of Poland for some years. This is a reminder that Chopin, the great composer, was a Pole.

Canada's trade with Poland and Danzig is not very large, our imports last year amounting to about one-quarter of a million dollars and our exports to three-quarters of a million. The imports were largely peas, seeds, cotton manufactures, paper, glass, table-wear and furs. Our exports to Poland were predominantly copper. The mention of furs recalls that the reindeer, the sable and the wild horse survive in Poland only in tradition. Bison disappeared in 1918. There are some elk, and beaver is now found only in the marshes of Polesie. Chamois, marmot, wildcat, lynx and the wild boar are still found, but the bear and wolf are uncommon.

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No. 142. Sun. Feb. 19, 1939 -- Growth of Canada to 1851 - 2

The coming of the United Empire Loyalists after the American War of Independence and their settlement in the Eastern Townships and along the Upper St. Lawrence and Lake Ontario and on the Niagara Peninsula shifted the centre of the inhabited area of the colony; Montreal was now the heart of the settlement, as was soon reflected in the growth of its population. Thus at the Census of 1790, Montreal, which had now received a considerable reinforcement of English-speaking people, had a population of approximately 18,000, as compared with 14,000 in Quebec; the grand total population in the colony was 161,311, exclusive of that in what is now Ontario, which was probably between 25,000 and 30,000 at this date. Henceforth the population of the new western districts, through immigration supplemented by natural increase, grew at a much more rapid rate than that of French Canada; consequently, Montreal being nearer these new districts, grew more rapidly than Quebec. The two cities, however, continued to be for the next half century rival commercial rather than manufacturing centres, where the chief people in business were the importers and the exporters and others concerned in carrying on and financing the import and export trade. It was no mere coincidence that the Banks of Montreal and Quebec were founded respectively in 1817 and 1818 with the object of financing the trade chiefly between Canada and the Mother Country.

The foreign trade in these early days, excluding furs, was, however, an extremely small percentage of total production. In the main the pioneer settlers of Upper Canada and the French habitants of Lower Canada lived on what they themselves produced, providing their own food, clothing, shelter and fuel. Lumber, wheat, furs and potash were shipped year by year to Great Britain during the season of navigation. The luxuries of those days, fine textiles, tea, coffee, etc., were imported into Montreal by ship; those for western points were then conveyed up the St. Lawrence over the many portages or through the small canals, finally reaching the consumers in what is now Ontario. Thus by 1825, when Lower Canada had a census population of 479,288, Montreal City had grown to 31,516 and Quebec City to 22,101, though Three Rivers remained far behind with 2,908. In the same year Upper Canada had a total population of 157,923, of which York, the capital, had only 1,677 or a little more than one per cent.

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No. 143. Mon. Feb. 20, 1939 -- Growth of Canada to 1851 - 3

Upper Canada was now the most rapidly growing part of the country and although every settler in these new parts meant additional traffic for the port of Montreal, centres of distribution began to rise in Upper Canada itself. While the immigration of half-pay officers and soldiers after the battle of Waterloo gave a great impetus to the population of Upper Canada between 1815 and 1825, the 30's brought much greater immigration, which was stimulated by the enormous growth of population and scarcity and dearness of food in the British Isles and especially in Ireland during this period. By 1834 the population of Upper Canada had doubled, totalling 321,145, while the town of York, incorporated in that year as the City of Toronto, had 9,252. By 1841, the year when the Act of Union went into effect, Upper Canada had 455,688 population, while its single city, Toronto, had increased to 14,249.

Meanwhile, Lower Canada, with its high rate of natural increase, was also growing rapidly, and Montreal in particular was reaping the benefits of the increase of settlement to the West. The total population of Lower Canada, which was 697,084 at the Census of 1844, had increased to 890,261 by the Census of 1851-2, while by the same date Upper Canada had for the first time passed Lower Canada with a population of 952,004. At this census Montreal had a population of 57,715, Quebec 42,052 and Toronto 30,775. In the same year, Hamilton, which had now reached the dignity of a city, had 14,112 and Kingston 11,697.

The year 1851 marks the beginning of the regular decennial census of this country, although the First Decennial Census of the Dominion of Canada was, of course, not taken until 1871. However, fairly complete figures, giving for eighty years the population of the areas now included in the Dominion, are available. Indeed, the year is really a transition date in the history of Canada. Before this time the waterways were the chief means of communication and the few short railways, which existed in the neighbourhood of Montreal and totalled some 66 miles in all, were merely portage lines. Transportation generally was slow and expensive and the main water routes were closed by ice during the five winter months, so that the St. Lawrence colony during this period was isolated and its residents had to depend during the winter upon United States routes and upon the ports of New York and Boston for transportation to Great Britain or the continent of Europe.

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No. 144. Tues. Feb. 21, 1939 -- Shrove Tuesday

Today is Shrove Tuesday, a day of special interest to worshippers of certain denominations of the Christian religion. Many people call it Pancake Tuesday, for on this day of the year the feast of pancakes is an institution.

Shrove Tuesday comes the day before Ash Wednesday, so called in the English Church from the custom which enjoined confession of sins and shriving immediately before the Lenten feast. It was an ancient custom that, after confession and absolution on this particular Tuesday, the people should partake of pancakes.

No doubt many people today will be having buckwheat pancakes, and if there is a more appetizing dish than that -- especially when the pancakes are covered with good Canadian maple syrup -- it is not on record that anybody has discovered it. Buckwheat pancakes served in this way are a typical Canadian supper.

The country of origin of buckwheat does not appear to be well established, but the suggestion is that it came originally from China and is one of the invaluable things which that great country has given the world. "Buck" is a corruption of the

German "buche" which means beech. It refers to the resemblance of the fruits to miniature beechnuts.

Though buckwheat is less nutritious than wheat, it is superior to rice. A field of buckwheat, covered with its pinkish-white blossoms, has a very attractive appearance.

The average Canadian production is around ten million bushels annually. Of a high quality variety, it is raised primarily for local consumption. About 55 per cent of the crop is grown in Ontario, 35 per cent in Quebec and the remainder in New Brunswick. A comparatively small quantity is exported. Last year more than half our buckwheat exports went to the United States, most of the balance to the Netherlands, and a small amount to the United Kingdom, West Indies, Newfoundland, Belgium, France and Germany.

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No. 145. Wed. Feb. 22, 1939 -- Growth of Canada to 1851 - 4

Throughout the whole of the period of settlement which has been described this month, the urban population for the most part bore a comparatively small proportion to the total population of the country and the few cities were mainly distributing or trading centres rather than manufacturing communities, though the flour mills of Montreal and some other forms of industrial plants were in operation in the 1830's and 1840's. Generally speaking, however, the habitant communities of Lower Canada and the pioneer settlements of Upper Canada were economically fairly self-sufficient, the latter in particular being necessarily so, on account of the great distances from market, the high cost of transportation and the seasonal and other interruptions in the service. Wherever people produce on their own farms nearly all the food and clothing which they consume, and have little trade with the outside world, there is not much opportunity for the establishment or growth of large manufacturing or even commercial cities.

The towns and villages that did arise in Upper Canada in this period contained a few merchants, a few artisans who for the most part worked to order for the nearby farmers of their own community, usually a doctor, a teacher, a parson and any local representatives of the government. The village of Port Sarnia, for example, is recorded in Smith's "Canada Past, Present and Future" as having at about 1850 eight merchants, one pumpmaker and boatbuilder, one merchant who was also the postmaster, one or more operators of the steam sawmill, one tanner, one iron and brass founder, one merchant who was also a life insurance agent, one county registrar, one doctor, one collector of customs and one hotel keeper. Doubtless in an inland community there would have been fewer merchants.

In this period what manufacturing was done was local work for local demand; many little woollen mills and flour mills took advantage of the water power on the small rivers. In the next decade or two the advent of the railway was to transfer trade and manufacturing from the smaller to the larger centres, thereby stimulating a much greater growth of urban population. The protective tariff adopted by the Canadian Legislature about 1858 also contributed to the growth of the larger urban communities by promoting the rise of manufactures.

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No. 146. Thurs. Feb. 23, 1939 -- Expansion in the Maritimes to 1851 - 5

While settlement and the rise of towns was proceeding in the St. Lawrence valley in the manner described, the Maritime Provinces and their urban communities were also growing in population and importance. Halifax was founded in 1749 and in the same year the French population of Acadia was stated as 13,000, of Ile Royal (Cape Breton Island) 1,000, of what is now New Brunswick 1,000 and of Saint John Island (Prince Edward Island) 1,000. In 1762 the British population of Nova Scotia was given as 8,104, of whom 2,500 were in Halifax town and 1,400 (mainly Hanoverians) in Lunenburg.

From the beginning, however, the barrenness of the rocky Atlantic coast of Nova Scotia drove many of its inhabitants to the seas to seek their livelihood, and Halifax prospered as a shipping port and fishing centre rather than as a distributing point for agricultural products from the lands in its neighbourhood. The Saint John valley in New Brunswick, settled by the United Empire Loyalists in 1783, was more fertile territory, as was also the Bay of Fundy coast of Nova Scotia, where the earliest permanent settlement on this continent north of Florida had been established in 1605 as Port Royal, which was re-named Annapolis after its capture by the British in 1708. Halifax prospered on account of its privateering business and the expenditure of British Government moneys during the war of 1812, and by 1827 the "peninsula" of Halifax (so-called in the census) had 14,439 population out of 123,630 in the whole province of Nova Scotia, while Saint John in 1824 had 8,488 population out of a total of 74,176 in New Brunswick. In 1834 Saint John had 12,073 out of 119,457 in New Brunswick and in 1838 Halifax had 14,148 out of a total of 202,575 in the colony of Nova Scotia. By 1840 Saint John accounted for 19,281 out of the 156,162 in New Brunswick. In 1851 Halifax had risen to 20,749 out of a total of 276,854 in Nova Scotia, while Saint John had 22,745 out of a total of 193,800. These two cities were the only large urban centres in their respective provinces, though Fredericton had a population of 4,458 in 1851.

As for the almost purely agricultural province of Prince Edward Island, we find that its capital and only important town, Charlottetown, had in 1841, 3,896 out of a total population of 47,042 in the colony; by 1848 this had increased to 4,717 out of a total of 62,678.

In the Maritime colonies, as well as in the St. Lawrence valley, the urban communities during this early period up to 1851 were much less important in relation to the total population than they are today. Nevertheless, the urban proportion of the total in the St. Lawrence colonies was smaller than in the various colonies of the Maritimes. Possibly this may be attributed to the fact that the latter contained important shipping centres and that the breadwinners who supported a large part of the population derived their sustenance from the sea rather than from the land.

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No. 147. Fri. Feb. 24, 1939 -- Today's Fish Story - Halibut

Halibut is the largest of the flat fishes, and this popular variety is native to both the North Pacific and North Atlantic Oceans. It extends into the Arctic Ocean but is not circum-Polar. The bulk of the Canadian supply is taken by the fishermen of British Columbia. Last year about 7,500 tons of halibut were landed by Canadian fishermen, of which amount 5,800 tons were taken in British Columbia waters. The two eyes of the fish are on the right side and the mouth is large; the body is long and less compressed than in other flat fishes. It ranges from seven to 400 pounds in weight and up to 10 feet in length. The smaller fish are known as chicken, averaging from seven to 10 pounds, the larger fish being classed as medium and large.

The fish is usually retailed in sliced steaks. It is available at all times from March to October. Halibut feeds on other fishes and in both the Pacific and Atlantic it is caught by hook and line. It has very firm white flesh.

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No. 148. Sat. Feb. 25, 1939 -- Canada and Hungary

Hungary is one of the succession states of the old Austro-Hungarian Empire. It is a landlocked republic lying between the Alps and the Carpathians. The Danube flows through it. The population, almost entirely Magyar in speech and origin, is about nine million. Bucharest, the capital, has a population of over one million. It is a magnificent city with a Parliament House, one of the most imposing legislative buildings in the world. The area is about 36,000 square miles, or one-half larger than New Brunswick.

The history of the countries which were later to constitute the Kingdom of Hungary is too intricate even to summarize adequately here. There was a Roman period, succeeded in turn by Germanic tribes, Huns, Goths, Lombards and Avars. In 894 the Magyars made their first authenticated raid into Moravia. The early history of this race is still a matter of learned dispute. Their own traditions declare them to have entered Hungary first with the Huns; leaving it, to have sojourned somewhere in Eastern Europe. Both the Caucasus and the Volga are mentioned in these traditions. They crushed the Empire of Great Moravia in 906, defeated the German forces in 907 and firmly established themselves.

From then on the history of Hungary has been chequered. Internal and external troubles followed in almost constant succession -- building, destruction and rebuilding. But Stephen I, one of the great constructive statesmen of history, firmly established the Hungarian church and the Hungarian state. John Hunyadi was famous in the 16th century. The Turks conquered Hungary in the 16th century, and a quarter of the country was absolutely destroyed. The effort of the Hapsburgs to conquer Transylvania, where Turk and Hapsburg were equally hated, led to fresh troubles and persecutions. The Reformation and the counter-Reformation, with the objective the extirpation of Protestantism, brought a reign of terror.

Finally the Magyars and the Hapsburgs became reconciled and Napoleon could not shake the former from their allegiance. There was a revolution a century ago when the Magyars were supported by the German Democrats who for the moment were in power in Vienna. Disasters continued during the reign of Francis-Joseph, culminating in the Great War and the partition.

Canada's commercial dealings with Hungary are small. Last year we received goods to the value of \$162,000, mainly peas, broom corn, spices, seeds, artificial silk products and glass tableware, while our exports to that country were less than \$8,000, almost all wood pulp. There are more than 40,000 people of Hungarian origin in Canada.

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No. 149. Sun. Feb. 26, 1939 -- Canada's Care for the Red Indian Population - 1

According to a recent radio broadcast speech by the Hon. T. A. Crerar, Minister of Mines and Resources, the Canadian Indians are, in a very real sense, wards of the Federal Government. Wardship implies, for the Indian, exclusion from the services ordinarily provided by provincial governments and organized municipalities. He neither contributes to, nor receives benefits from, the many public and private institutions that make life so much easier for the white man. With the single



exception of the Christian missionary who, since the advent of the white man, has assisted in his education and ministered to his spiritual welfare, the Indian is dependent solely on the Dominion Government for those necessities of life that lie beyond his own skill and ingenuity.

Under the terms of the agreements and treaties whereby the Indians surrendered their land, the Governments of those days agreed that the Dominion should provide them with tracts of land adequate to maintain them and their families, make an annual distribution of cash and other necessities, and provide facilities for their education and betterment.

Nevertheless, to restore to the Indian that skill and pride of race, associated with his ancestors at their best, is one of the most challenging of the many tasks facing this country. The Indian population now approximates 118,000, increasing annually at the rate of one per cent. Of this population, 60,000 depend in whole or in part on farming for a livelihood; 50,000 on hunting, fishing, or trapping; and the remainder might be described as labourers or industrial workers.

The total area of Indian reserve lands is slightly more than 5,000,000 acres. Much of this is suitable for raising crops yet only 213,000 acres are under actual cultivation. Last year the total income of the Indians was slightly under six and a quarter million dollars, or approximately \$52 per head of Indian population. The principal sources of income are farming, wages, hunting and trapping, fishing, Treaty Payments, and interest on their own Trust Funds.

It will therefore be seen that, with the exception of a comparatively small group, Canadian Indians are engaged in the basic industries of the country. These were the first industries to experience the paralyzing touch of economic depression. A sudden collapse in the price of primary products, widespread drought conditions, crop failures, and a downward trend in the fur cycle followed each other in rapid succession. No social or economic structure, however well organized, could withstand the impact of such forces, much less the simple economy of the Indian, in which few, even in prosperous years, reached beyond a mere subsistence level.

Almost overnight the Indian found himself faced with conditions that threatened his very existence. This was particularly true of the trapping Indian, who found his fur catch rapidly declining not only in quantity but in value. Moreover, he faced another disturbing condition. The ever-widening search for minerals was leading into the fur country. Transportation by aeroplane caused an influx of transient white trappers into the Indians' trapping ground. Armed with more traps than the Indian could command, and with no incentive to conserve the breeding stock, the white trapper became the Indian's keenest competitor.

If the Indians are not to become permanent charges, some long-range programme whereby they can re-establish themselves on a self-supporting basis must be brought into effect. Any rehabilitation programme to be worthwhile must have as its basis a system of education designed to meet the needs of the Indian, and to fit him for such occupations as are within his reach. It may be said here that of the \$5,000,000 provided annually by Parliament for the Indian service, two millions, or 40 per cent, is set apart for the upkeep and operation of Indian schools. At present 18,000 pupils are attending these schools. The Indian's need for practical and vocational training is great. Labour opportunities for him must follow relatively simple lines, such as farming, stock-raising, logging and fishing, rather than the intensive routine of commerce or factory. Day schools built in recent years are now equipped with basement accommodation for vocational instruction. These schools have on many reserves become community centres. Here home-makers' clubs have been organized, and practical courses of study for adults are regularly provided.



No. 150. Mon. Feb. 27, 1939 -- Canada's Care for the Red Indian Population - 2

As already stated, 60,000 of the Canadian Indians are dependent for their livelihood, in whole or in part, on farming. It will be more accurate, perhaps, to say that these Indians live on reserves where the agricultural lands, if cultivated, are capable of sustaining the present population.

The programme on farming reserves is, of course, determined by the peculiar needs of Indians in different sections of the country. In the main it can be said, however, that the greatest needs of the farming Indians are livestock and equipment. To some degree these are supplied by the Government with the primary object of enabling the Indians to produce grains and vegetables, not so much in bulk quantities for sale, as in sufficient quantities to meet their own needs. The farm operations come under the direct supervision of farming instructors employed by the Government.

Last year, legislation making provision for a revolving fund was passed by Parliament. Bands or groups of Indians can, by assuming collective responsibility, secure loans from this fund for the purchase of equipment. These loans are repayable over a five-year period. Thirteen community farms supplied with equipment from this fund will be in operation in the Prairie Provinces during the coming year.

The Government's main objective is to encourage the Indians to supply their own needs. There are exceptions, of course. Thus, on the Blood Reserve in southern Alberta, with a population of 1,300 Indians, the grain threshed last year amounted to 255,000 bushels. The community farm on the Cote Reserve, Pelly Agency, Saskatchewan, with a population of 354, one of the first farms of its kind organized on a community basis in the Dominion, last year produced 11,000 bushels of grain and 2,800 bushels of potatoes.

When considering the hunting and trapping Indians, it should be recalled that the British North America Act provides for the administration by the provinces of laws relating to fish and game. The Dominion Government is responsible for the fur resources in the areas still under federal jurisdiction, and is interested in the propagation and conservation of fur-bearing animals as the basis of a national industry.

In an effort to conserve the fur life and to provide a means of livelihood for trapping Indians, the Department has secured, from a number of provincial governments, areas suitable for the propagation of fur-bearing animals. An area of 13,000 square miles, fronting on the southeast end of James Bay, has been obtained from the Quebec Government on a long-term lease as a beaver sanctuary, for the exclusive use of Indians. No trapping will be permitted until the beaver population has reached at least 2,000 pairs, and thereafter trapping will be regulated. In Ontario, Manitoba and Saskatchewan also, areas are being developed as exclusive Indian hunting grounds, through Dominion-Provincial agreements.

In British Columbia a trapper may purchase the exclusive trapping rights in a defined area for a period of five years. The Dominion Government's policy is to purchase these trap-lines as they become available and to place them at the disposal of Indians. Thirty-six trap-lines were so purchased during the past year.

In returning to the Indian some of his old trapping grounds and reserving them for his exclusive use the Government has been mindful of the fact that, left to himself, the Indian is invariably a conservationist. What is being done will not only directly benefit him but will also materially contribute to the development of one of our great basic industries.



No. 151. Tues. Feb. 28, 1939 -- Canada's Care for the Red Indian Population - 3

One of the most noteworthy features of the rehabilitation programme is the re-awakening of interest in Indian arts and crafts. It is regrettable that with the exception of British Columbia and a few scattered reserves elsewhere the production of handicrafts has in the past declined almost to the point of extinction.

There are a number of reasons for this condition. The Indian for a time was confused by the impact of white civilization. Lacking encouragement, he abandoned his traditions, tribal customs and accomplishments, many of them as old as his own race. Unfortunately, in abandoning much that could be discarded without loss, he also abandoned much that might have enriched not only his own life but the national life as well. Unique designs and fine artistry have long won for Indian craftsmen world-wide recognition. Yet, strange as it may seem, many Indians look upon the production of handicraft articles as an activity that tends to lower, rather than to elevate, their social status. One can only conjecture how much the white man is responsible for this mistaken attitude!

In order to stimulate interest in Indian handicrafts a number of worthwhile specimens have been displayed in the larger centres. A notable exhibition of this kind was held in Vancouver last May. Under Government encouragement, groups have been organized on Indian reserves for the production of splint baskets, hand-loom weaving, wrought metalwork, knitting, crochet work, wood carving, tanning and leather work. In the last eight months, \$25,000 worth of these products have been successfully marketed.

The Department of Mines and Resources encourages the production of high-quality materials only, and endeavours to assure continuity of supply. An attempt is being made to open up markets where these products can be sold at a reasonable price, but nevertheless a price that will encourage him to excel in his craftsmanship.

In all of the efforts which are being made it is the Government's hope to move steadily towards the creation of an Indian population, proud of their origin and cultural heritage, adjusted to modern life, progressive, resourceful and self-reliant.

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DEPARTMENT OF  
TRADE AND COMMERCE



**A FACT A DAY ABOUT CANADA**

FROM THE

**DOMINION BUREAU OF STATISTICS**

**MARCH 1939**

**FIFTH SERIES**



Published by Authority of the HON. W.D. EULER, M.P.,  
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James Muir,  
Editor.



## A Fact a Day about Canada

from the

Dominion Bureau of Statistics

No. 152. Wed. March 1, 1939 -- March

March was the first month of the Roman year and the third according to our present calendar. It was considered as the first month of the year in England until the change of style in 1752, and the legal year was reckoned from March 25. March was named for Mars, the god of war in Roman mythology. Mars was the reputed father of Romulus, and so of the Roman nation.

It may seem to us appropriate that the windy and stormy month should have a war-like name, but the Romans named it so only by chance, for March is not a stormy month in Italy. An old English proverb says: "March comes in like a lion, goes out like a lamb."

The violet is the special flower of the month and it is a flower of rare beauty. It is found in Canada in such varied colours as white, blue, purple or yellow, and is a large genus of early spring-flowering herbs. The Canada Violet is found in rich woods from Newfoundland to Saskatchewan, blooming all summer. The downy yellow violet grows in dry open woods from New Brunswick to Ontario, and is the first member of the violet clan to appear in the spring. Then there is the bird-foot violet, found in sandy soil on open sunny slopes. The English violet is very fragrant.

The birthstone of March is the heliotrope, known also as the aquamarine and bloodstone. The heliotrope is also called St. Stephen's Stone, for an obvious reason, for it is distinguished by the presence of a dark green ground with blood red spots, apparently the red oxide of iron. It has been much used for rings and brooches, those varieties being most valued in which the red spots are bright, well defined, not too irregularly scattered, and contrast well with the dark green colour of the body of the stone. It is found in Iceland, the Hebrides, and in larger quantities in India and Australia.

Welshmen the world over celebrate today, the first of March, in honour of their patron, Saint David, Archbishop of Caerleon, who died about 544, by most accounts. There are legends galore about this saintly man and, however true they are, all are to his credit. He was numbered among the canonized saints of Britain and lived a life that was a pattern for all to follow.

Great events which occurred in March include the United States Constitution going into effect in 1789, the passing of the British North America Act in 1867, and the patent granted to Alexander Graham Bell for the first telephone in 1876. Among the outstanding figures in history whose birthdays occurred in March were Alexander Graham Bell, David Livingstone, Saint Patrick, Strauss, Chopin, Michelangelo and Thomas Aquinas.

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No. 153. Thurs. March 2, 1939 -- The Automatic Telephone

Canada's part in the invention of the dial or automatic system of telephoning was a very real one and had its origin in Brantford, Ontario. This was proper, as Brantford, through Alexander Graham Bell, gave to the world that marvellous invention by which people, long distances apart, communicate with one another over the wires.

The Callender Automatic Telephone System was invented by Romaine Callender, of Brantford, and there is on record Graham Bell's interest in and approval of it in 1893. For years Callender had been bringing his invention towards perfection, and he gave a demonstration of it in the Decker Building, Union Square, New York on January 23, 1895. He made more improvements and gave a second demonstration in June of the same year.

Then the Lorimer Brothers of St. George, near Brantford, improved the Callender system and the improved system was demonstrated in 1897. The company was reorganized with the name Canadian Machine Telephone Company, Toronto. The first exchange in Canada using this system was opened in Peterborough, Ontario, in 1905. Other exchanges were opened at Brantford, Burford, St. George and Lindsay in 1908. The Bell Telephone Company acquired the assets of the company in 1925.

Meanwhile developments had been taking place in the United States. A. B. Strowger, of Kansas City, had invented an automatic system somewhat similar to our present dial system but it required many improvements before it was commercially feasible for exchanges of various sizes. The first public demonstration of the system was made in 1892 at La Porte, India, and the first dial type telephone in the United States was developed in 1895. The dial was circular and had "holds" rather than "holes". In 1896 an installation was made in Amsterdam, N. Y., and in 1897 one in Augusta, Ga. In 1899 two systems were installed in Berlin, Germany, and one in Ithaca, N. Y.

The first of that system in Canada was at Woodstock, Ont., in 1903 and the second at Sydney Mines, N. S., about the same time. Thereafter the fastest development was in Prairie centres in the following order: Saskatoon, Edmonton, Calgary, Lethbridge, Prince Albert, Regina, Medicine Hat, Brandon, Swift Current, Moose Jaw, Winnipeg and North Battleford. The next in Eastern Canada were at Toronto in 1924 and Montreal in 1925. Quebec and Hamilton followed. The dial system was made general in Government offices in Ottawa in 1938.

The telephones on automatic switchboards exceeded those on manual switchboards for the first time in 1931 and by 1937 were more than twice as many. In 51 large cities of the Dominion there is a telephone for every five persons.

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No. 154. Fri. March 3, 1939 -- Today's Fish Story - Bass

To a Canadian, bass is a fresh water fish, of which there are several varieties, but as a genus it is a member of the sea-perch family found in the Mediterranean and on the Atlantic coasts of Europe. It is a silvery, blue-backed fish, with a strong spinous dorsal fin, and grows to three feet in length. These sea-bass swim in shoals near the coast and often ascend rivers. On our Atlantic and Pacific coasts sea-bass are caught, but the supply is small.

However, what we mean when we talk about bass is a favourite fish caught in our lakes and rivers, and the most highly prized is the small-mouthed Black Bass, the average size of which is three or four pounds. It has great fighting qualities that are a joy to the angler, and is in good supply in June and July. The large-mouthed Black Bass is also popular.

The Grass or Calico Bass is a good pan fish available during the summer months, but it is best in the spring when the water is cold. The average weight is around eight ounces.



The perch, allied to the bass, is a common little fish found in the fresh waters of Canada and much esteemed for food. The best known variety is the Yellow Perch, a cheap and palatable fish particularly adapted for frying. It is in season during the summer months and is caught in nets and by hook and line. The average weight is about eight ounces.

In a great many waters of Canada which have been depleted of bass, millions of fingerling bass have been placed in the water and have thriven well. In some places where at one time it was supposed that the voracious pike had reduced the bass almost to extermination, it is said that the boot is now on the other foot and the bass are once again thriving in large numbers.

Commercially there were 55,000 pounds of bass caught and marketed last year, valued at \$5,262. No doubt there were many, many more pounds caught by the holiday anglers of the country.

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No. 155. Sat. March 4, 1939 -- Canada and Albania

Albania is an independent kingdom lying on the west coast of the Balkan peninsula between Greece and Yugoslavia, with an area of 11,000 square miles or about half the area of Nova Scotia, and a population of over one million. It was formed out of the earlier Turkish provinces of Scutari and Yanina, with parts of Kosovo and Monastir. The Albanians have been in the past and still are mainly mountain folk occupying the hilly interior rather than the coastal lowlands.

The elevated hinterland of the country forms a natural refuge between the seaway to the west and the north-to-south land routes of the interior of the peninsula. Within the mountain belt lie fertile valleys and basins capable of supporting fairly dense populations, yet Albania's aloofness has led to its being one of the least known parts of Europe. Within the post-war kingdom the primitive and the ultra-modern jostle one another.

The Albanians have retained their original language, of Indo-European origin. It is practically unknown beyond the borders of the little kingdom. The first king of Albania known to history was Scanderberg the Great, who reigned from 1444 to 1467.

During the Great War the country was invaded by troops both of the central powers and of the Allies and remained in a state of anarchy. After the Armistice a National Council established a provisional government supported by an Italian military occupation of the country. The independence of the kingdom was guaranteed by the Supreme Council of the Allies. The provisional government was in power for a short time when a revolt set up a new government which remained in power until upset by a further revolution in 1924. Under a new constitution Albania became a republic under a president elected for seven years with a Council of Ministers, a Senate and a House of elected representatives. In 1928 the Assembly proclaimed the country a democratic monarchy and offered the crown to Ahmed Bey Zogu, president, who assumed the title of Zog I, King of the Albanians. The Moslem faith is still embraced by more than two-thirds of the people, an effect of the Turkish rule established in the 15th century. Under Zog I Albania continues to be the only Moslem kingdom in Europe.

According to whether they live north or south of the river Shkumbi, the Albanians are called Ghegs and Tosks, the latter having attained a more advanced state of civilization. The social organization of Albania, with its clans and tribes, recalls that of feudal Europe. The cohesion of the Albanian family is very remarkable. Each household attempts to produce all the necessities of life for its own purposes, including

flax, wool and leather, for clothing.

Industry is primitive, agriculture and sheep and goat rearing being the principal occupations, and olives and olive oil, grains and tobacco the principal products. There is some mineral wealth in oil, coal, copper and iron which remains largely undeveloped. The Italian State Railways hold a concession to exploit oil, which has been found in satisfactory quantities near Berat. Wells have been sunk and a pipe-line laid down between the oil-field and Valona. Exports of oil now figure in the trade of the country.

The capital of Albania is Tirana in the interior, with a population of over 30,000. Durazzo on the coast is a city of 10,000.

Canada's trade with Albania is extremely small, our direct exports amounting only to a few thousand dollars in the last three or four years. Imports of olive oil presumably come to this country indirectly from Albania.

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No. 156. Sun., March 5, 1939 -- Trapping from the Air

It is not so long ago that Canada found it necessary to impose drastic regulations to curb the activities of trappers. Now, so rapid has been the progress made in flying transport that it has been necessary to issue a new set of regulations to cover the use of aircraft in trapping operations in the Northwest Territories. It is now ordained that with the exception of the recently-created Mackenzie Mountains Preserve, aeroplanes may only be used by trappers as a means of transport between the point of activity and the trapper's base camp. Every trapper using the aeroplane for transport purposes is required to complete an affidavit setting out the place of his camp and full particulars of his operations. In the Mackenzie Mountains Preserve the use of aeroplane transportation at all in connection with trapping is prohibited.

The regulation of the use of aircraft is in the interest not merely of game preservation but also of the native population of the Territories, whose livelihood in the out-of-the-way places depends to a large extent on game and fur-bearing animals. Air transportation has now made it possible for trappers, tourists and others to reach these outlying regions; hence the restrictions. They are part and parcel of a consistent policy of conservation, another manifestation of which was the creation of the Mackenzie Mountains Preserve itself. Covering an area of some 70,000 square miles, it has been set aside in the interest of the native population and comprises the hunting grounds of many families living along the Mackenzie and Liard Rivers. It is here that the marten, one of the North's important fur-bearers, abounds.

The establishment of the Mackenzie Mountains Preserve has brought the total area of game preserves set aside in the Northwest for the exclusive use of Indians, Eskimos and half-breeds, up to approximately 584,000 square miles. In addition the Territories have nearly 25,000 square miles of parks and game sanctuaries.

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No. 157. Mon., March 6, 1939 -- Canada's Historic Yesterdays

Among the illusions concerning our country which the forthcoming visit of the King and Queen will undoubtedly serve to dissolve, is the impression that Canada is an entirely new country without historic background.

True, the Canadian West as we know it today is of comparatively recent origin but even so, the King and Queen will see many evidences of activity and of life two or three hundred years ago. Their Majesties' visit will be part of the historic pattern which has already been woven in bright and varied colours.

The establishment of a Historic Sites and Monuments Board working in conjunction with the National Parks Bureau was one of the steps taken to memorialize our brief but powerful past. The Board's work consists of examining and marking places of interest like Indian earthworks, forts and villages, trading posts and areas identified with the long struggle for the possession of Canada.

Since the inception of this work eighteen years ago, more than a thousand sites have been carefully considered and more than three hundred have been judged to be of sufficient national importance to warrant their being maintained and suitably marked with a bronze tablet.

Among the outstanding historic sites preserved and maintained by the National Parks Bureau is the Fortress of Louisbourg on Cape Breton Island, of which we had a story last September, and Fort Anne, Nova Scotia, which we wrote about in December.

Fort Beausejour, New Brunswick, is one of the most interesting historical sites in the Maritime Provinces. The fort was originally constructed by the French as a counter-defence against Fort Lawrence, which stood on a parallel ridge about a mile and a half to the southeast. The old fortifications, both English and French, are in a good state of preservation, and the site holds much of interest to students of early Acadian history.

Historic Fort Chambly, in the Province of Quebec, has an epic past going back to the year 1609, and has been carefully restored.

Fort Wellington, at Prescott, Ontario, was, when finally completed in 1838, an impressive object commanding a magnificent view of the St. Lawrence River, and is visited annually by thousands of people from many countries of the world, while in Manitoba, Fort Prince of Wales was built opposite the town of Churchill to ensure England's control of Hudson Bay. Its ruins, which are among the most interesting in Canada, are being carefully preserved.

Warlike episodes, however, are not the only ones worthy of perpetual remembrance. "Peace hath her victories no less renowned than war." At Charlottetown, Prince Edward Island, a tablet commemorates the laying of the first submarine telegraph cable in America. In Halifax, a tablet marks the site of the establishment of the first newspaper in Canada. Near Bella Coola, in British Columbia, a memorial designates the western terminus of Sir Alexander Mackenzie's transcontinental journey. Similar memorials recalling events of industrial, political and commercial importance have been erected at other points, and additional places of interest are being marked with each succeeding year.

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No. 158. Tues. March 7, 1939 -- Short Courses Popular With Indians

Short courses in agriculture and home economics are getting a popular response from Canada's Indians, according to the Indian Affairs Branch of the Department of Mines and Resources. Attendance at the courses held recently on the Six Nations Reserve, near Brantford, Ontario, was tripled compared with previous years, and apart from those taking the regular classes a large number of Indians attended lectures on subjects of particular interest to themselves.

These courses are arranged to provide practical education in the way of farming and home-making that should be valuable to the young Indians. Although arranged primarily for the young people, the older Indians are also invited to attend. The course in agriculture includes a study of the various breeds of live stock, including principles of breeding and practical work in judging cattle, horses and other animals. Elementary instruction is given which includes information on the substitution of cheaper for more expensive foods in balancing rations. In poultry raising the Indians are taught selection of breeding stock, feeding, housing, killing and preparing for market, as well as prevention of common diseases. Other lectures cover field crops, vegetables and small fruits, weeds, soils and fertilizers.

The home economics course for the young women covers foods and their preparation, emphasizing the importance of the proper foods to provide normal development and maintenance of health. Under instruction the students are required to use and alter patterns, cut, fit and make garments. Other items of household duties include care of laundry and clothing.

At the request of the young Indians the first of these short courses in agriculture and home economics was held in the spring of 1936 on the Six Nations Reserve, where they were enthusiastically received. The response of the Indians and the benefits resulting from the initial short courses soon led the Department to extend the movement and make these classes available to the Indians of the Tyendinaga Reserve, near Deseronto, the Caradoc Reserve, near London, the Sarnia Reserve, and the Manitowaning Reserve on Manitoulin Island.

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No. 159. Wed. March 8, 1939 -- The Plains Indians

There were five tribes of Indians on the Plains in the 18th century, the Black-foot, Assiniboine, Sarcee, Gros Ventre and Kootenay. The Gros Ventre retired southward into the United States about 1800 and the Kootenay crossed the Rocky Mountains into British Columbia. However, many Cree Indians, and even some Ojibwa, moved out to the Plains and took their place. In 1876 a few Sioux left Dakota and found refuge in Canada.

The Plains Indian was a sturdily built individual whose skin was slightly redder than that of other Canadian Indians. He had a prominent beaked nose, almost but not quite Semitic, which leads to the belief that the early forefathers of the Plains Indians migrated into America at a different time from other Indians.

About the middle of the 18th century the Plains Indians numbered approximately 25,000, but were decimated soon afterwards by smallpox brought from Europe. Within a century another epidemic ravaged them, and a few years later they were confined to reserves. Their morale accordingly was temporarily lowered and the death rate rose. Today the population of 15,000 is increasing.

Buffalo meat was the staff of life, the hide made tents and robes, the bones their tools and weapons. Clay pots were their early cookery vessels, but when they



obtained horses they abandoned the fragile pots and used strips of hide supported by stakes. They filled these "bags" with water, put in the meat and boiled the water with hot stones.

Winter and summer the Plains Indians lived in tipis, now made of cloth. In the centre of the conical tent was an open fireplace, from which the smoke curled upward to issue through two ears or ventilators near the peak. The tipis were often beautifully decorated with paint.

The almost treeless plains, intersected by few rivers, favoured travel by land rather than by water; hence the bark canoe of the east and north was rarely used.

Before 1700 when horses first reached Central Canada, the Plains were a fairly peaceful area -- the Indians wandered slowly on foot and in small bands. But the introduction of horses, firearms and steel tomahawks changed the whole area into a perpetual battling ground. War became a national sport. Rarely did they torture their prisoners. Warfare ceased with the extermination of the buffalo and the starving tribes submitted to the Dominion Government. As writing was unknown their war deeds were recorded in pictures. They believed in a Great Spirit, the sun His messenger.

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No. 160. Thurs. March 9, 1939 -- Roses on the Prairies

It is to be regretted that roses are not found in the prairie garden and employed in beautifying the prairie home grounds more frequently than they are. Too often the cause lies, not in the climate, not in the roses, but in the people themselves. Many people have the erroneous idea that roses cannot be grown successfully on the prairie. Yet there are several varieties in the Briar and Rugosa Hybrids that are quite hardy at the Dominion Experimental Station, Rosthern, Sask., and a few in the more tender Hybrid Perpetual class which can be grown with success provided a little winter protection is given.

In the tall and very hardy type, Betty Bland is in a class by itself. It grows from three to six feet high and is covered with medium sized double pink roses in June. The bright red branches add to its decorative effect. The Rugosa rose makes a useful landscape shrub. It is hardy and thrifty, with luxuriant deep green wrinkled foliage and large purplish to white flowers. Being of the perpetual blooming type it can be depended on for a long season of bloom. Rosa Altaica is a shrubby, free flowering plant with small foliage and large creamy white flowers. Hansa, dark red, semi-double; Harrisons Yellow, semi-double, tall and hardy; Austrian Copper, bright reddish copper, single; and F. J. Grootendorst with its clusters of small rosy flowers and long season of bloom are all hardy here with little or no protection.

Rosa rubrifolia, the Redleaf rose, has attractive purplish red foliage which makes a good background for other roses or ornamental shrubs. It is not quite hardy here.

In the Hybrid Perpetual class which comes through the winter when mounded up with a cone of earth, good varieties are: Mrs. John Laing, rosy pink, fragrant, lasting; Capt. Hayward, deep red; Frau Karl Druschki, an excellent white; Hugh Dickson, crimson; and the fine Hybrid Tea, Gruss an Teplitz, with its bright red semi-double fragrant flowers and continuous blooming habit. Several other varieties of Hybrid Perpetuals and a few Moss roses are being tested.

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No. 161. Fri. March 10, 1939 -- Today's Fish Story - Haddock

Haddock is one of the most valued of Canadian sea fish, and the demand for it is increasing every year. It is sold fresh but it lends itself to various forms of preservation, and one of these has gained exceptional popularity -- the Finnan Haddie. The Finnan Haddie is so-called because it was the method of curing the haddock which was practised by a village in the east of Scotland. The name is simply part of the name of the village.

The haddock is distinguished from its relative, the cod, by the smaller mouth and the blackish line which extends along the side of the body from the gills to the tail. From Iceland it ranges southward on both sides of the Atlantic and in the North Sea it constitutes nearly half the total weight of fish taken in the trawl. It feeds mainly on molluscs and crustaceans. It grows to a length of three feet but specimens of this size are exceptional.

Haddock is not taken on the Pacific coast but by Canadian Atlantic fishermen. The yearly catch is about 20,000 tons. Available all year, haddock is marketed fresh, frozen, filleted, smoked, canned and salted. Large quantities are sold as fresh and smoked fillets, and the Finnan Haddie mentioned above is the whole fish split and smoked. The average weight of the fish is about three pounds but the "jumbo" haddock may run to eight and ten pounds. The smallest commercial sizes are known as "scrod".

Canadian fishermen get their haddock on the offshore Banks and in the coastal waters of the Maritime Provinces by means of hook-and-line and in nets dragged over the sea bottom by steam and motor vessels.

The value to the fishermen of the haddock catch last year was \$640,000, and it ranked sixth in value amongst the various species taken from the sea.

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No. 162. Sat. March 11, 1939 -- Canada and Hayti

The Republic of Hayti is the western or French portion of the island of Hispaniola, which next to Cuba is the largest of the West India Islands. Formerly a French colony, it was proclaimed independent in 1804. It has recently been governed under a constitution formally ratified in 1932. The legislature consists of a Senate and a Chamber of Deputies, the president being elected for a period of six years. In 1915 a treaty was entered into with the United States whereby certain public services of the republic were to be controlled by United States officials. The treaty expired in 1936, but in 1931 the United States officials in charge of Public Health, Public Works, and the Agricultural Technical Service, were withdrawn and the "Garde d'Hayti" was completely Haytianized and turned over to Haytian officers three years later. The last Company of the United States Marines left Hayti on August 15, 1934, after an occupation of 19 years, but the Financial Service remains under United States control.

The area of the Republic of Hayti is estimated at 10,204 square miles or a little less than half the area of Nova Scotia, with a population estimated at 2,300,000, including white foreign residents. The mountains are richly and heavily timbered and capable of cultivation nearly to their summits. It is probably the most fertile spot in the West Indies, while its harbours, especially Port-au-Prince, offer considerable facilities to foreign trade.

The principal products are coffee, logwood, cocoa, cotton, hides, sisal, sugar, honey, gums and oil seeds, these being the chief exports. Most of Hayti's foreign



trade is carried on with the United States, the British Empire, France and Germany. French is the official language of the country, but most of the people speak a dialect known as Creole French.

Hayti was discovered by Columbus on his first voyage in 1492. The inhabitants -- from 1,000,000 to 3,000,000 Indians -- were an agricultural and fishing people who were then suffering from Carib raids. As a result of the Spanish occupation all the Indians were shortly slaughtered or worked to death in quest of gold. The island was repopulated with Negroes from Africa, which was the beginning of the revolting slave traffic. The Spanish soon went to the mainland, leaving Hayti deserted. About 1630, French and English buccaneers settled on Tortola, a tiny island of the Virgin group, lying north-east of Hayti. They soon moved over to the main island, and the west half they occupied was ceded to France by the Treaty of Ryswick in 1697. From that time the French colony, built upon slavery and immigration, became one of the most prosperous of all tropical enterprises. Sugar, cotton, coffee and indigo were staples. Many mulattoes who gained freedom after the Spanish left, became property owners under the French regime. Political rights were granted them in 1789. The whites protested and fierce battles ensued until England, solicited by the French settlers, intervened, as did the Spaniards.

The history of Hayti is one of struggle by her people, in the face of innumerable difficulties, to organize themselves into a civilized society, and her commercial prosperity has been almost annihilated at times by repeated revolutions. Two extraordinary military geniuses emerge from the turmoil to go down in history -- Toussaint L'Ouverture and Henri Christophe. L'Ouverture, descendant of an African chief, aided the French by driving out the Spanish and English with a disciplined and powerful army of Negroes which he raised himself. He became governor of Hayti, but when France sent out Napoleon I to take command, L'Ouverture renounced the authority of France and succeeded in liberating the Haytians, though he was later captured by ruse and died in prison in France. But the country's independence was declared in 1804 and the Indian name Hayti taken for the state.

Christophe, also a Negro, first ruled in the north as King Henry I, but became Emperor of the whole republic from 1811 to 1820. He had a stormy military career, but is chiefly remembered as the builder of the Citadel of Christophe, a huge mass of masonry perched on top of the highest and most inaccessible peak in the district, south of Haitien. Built before he became Emperor, it was then known as the Citadel La Ferrière, and is still considered a veritable marvel. It is visited annually by many tourists.

Last year Canada got from Hayti goods to the value of \$62,000, chiefly tampico fibre, and our exports to that country were valued at over \$120,000. These goods were in great variety. Two favourite types of canned fish amongst the Haytians are Canadian alewives and herrings.

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No. 163. Sun. March 12, 1939 -- Visit of the King and Queen

The forthcoming visit of the King and Queen to Canada in May this year will be unique. It will be the first occasion upon which our own reigning Sovereign has visited this country either in colonial days or since it became a Dominion.

The official designation of the King is: "His Most Excellent Majesty, George the Sixth, by the grace of God, of Great Britain, Ireland and the British Dominions beyond the Seas, KING, Defender of the Faith, Emperor of India."

George VI is the second son of His late Majesty, King George V and of Her Majesty, Queen Mary. He succeeded to the throne on December 10, 1936, on the abdication of his elder brother Edward VIII, and was crowned with his Consort at Westminster Abbey on May 12, 1937.

Born at Sandringham, England, on December 14, 1895, he is 43 years of age. He was named Albert Frederick Arthur George, Duke of York, Earl of Inverness and Baron Killarney, K.G., K.T., G.C.M.G., G.C.V.O., D.C.L., Admiral of the Fleet, Colonel-in-Chief of the Royal Marines, Marshal of the Air Force, Colonel-in-Chief of the Life Guards, Royal Horse Guards, Royal Regiment of Artillery, Corps of Royal Engineers, Grenadier Guards, Coldstream Guards, Irish Guards, and Captain-General of the Honorable Artillery Company, Territorial Army.

He was married on April 26, 1923, to Lady Elizabeth Bowes-Lyon, youngest daughter of the Earl of Strathmore and Kinghorne, scion of an ancient Scottish family. She is a lineal descendant of Macbeth, who succeeded Duncan as King of the Scots in 1040. She is 39 years of age.

They have two daughters, H.R.H. Princess Elizabeth Alexandra Mary, born in 1926 at London, and H.R.H. Princess Margaret Rose, born in 1930 at Glamis Castle, the historic home of the Queen's family in Scotland. Princess Elizabeth is the heir-apparent to the Throne.

The King and Queen have endeared themselves to people not only in the British Empire but all over the world by their evident domestic felicity, and the announcement of their first visit to this Dominion as King and Queen has made a strong appeal to the loyalty and the affectionate regard of Canadians.

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No. 164. Mon. March 13, 1939 -- Fleming Gave Us Standard Time

Sir Sandford Fleming, one time chief engineer for the Dominion Government, gave the world the time measurement system which we know as Standard Time.

Sir Sandford Fleming was a native of the Fifeshire town of Kirkcaldy, in Scotland. In 1845, at the age of 18, he came to Canada, joining in the rush of Scots to this country about that time, a rush that included a number of men who achieved prominence in the building of the nation.

He became a railroad construction engineer, made rapid progress in his profession and at Confederation in 1867, when he was forty years of age, he was appointed chief engineer for the new Canadian Government.

The difficulty of measuring time upon this broad continent, the inconveniences experienced with railroad and telegraph communications, determined him to find a solution. The system of measuring time from noonday when the sun was directly overhead was in vogue in Canada, the United States and Europe, but something more definite and certain had to be evolved. Sir Sandford conceived it, and presented his theory to the world at a meeting of the Royal Canadian Institute held at Toronto in 1878.

His theory was that time measurement should be by meridians fifteen degrees apart in longitude and covering the entire continent. It took some time, of course, to convince the conservative elements in Canada that his proposal was sound, and it took still longer to bring Washington and London to his way of thinking, but he succeeded in winning to his side two eminent rulers, King Humbert I of Italy, and



Czar Alexander II of Russia. Russia with its vast expanse of country eastward had problems similar to the Canadian difficulties. These two sovereigns sent out in 1879 invitations to a world conference on the subject to be held in Rome in 1882.

Before the conference the Czar had been assassinated and the gathering at Rome adjourned to meet in Washington the following year.

The Washington conference adopted the Sandford Fleming proposal to standardize time by meridians and in a very few years it came into being in every leading country of the world.

It was all so very easy when explained. There are 24 hours in a day and the circle of the earth is 360 degrees. Divide the degrees by hours and you get zones of 15 degrees each. That gives 24 Standard Time zones with a difference of one hour in each. The prime or zero meridian was eventually decided upon as Greenwich.

Sir Sandford Fleming died at Halifax in 1915. He was busy and progressive to the end of his days in his 88th year.

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No. 165. Tues. March 14, 1939 -- The Trans-Canada Airway

Natural conditions divide the Trans-Canada Airway into four distinct regions -- the Mountain region, from the Pacific coast to the foothills of Alberta; the Prairie region, stretching from the foothills to the Ontario boundary; the Laurentian area, extending through western Ontario as far as the Ottawa valley; and the Atlantic section, which takes in the settled areas in the basin of the Great Lakes, the Eastern Townships of Quebec, and the Maritimes.

The Prairie region obviously presented the simplest construction and operating problems. There, precipitation is light, visibility normally good, contour changes are gradual, and aerodrome sites requiring little development were obtainable everywhere. Airway surveys commenced on the prairie section in the summer of 1928, and aerodrome construction and lighting installation followed. By the end of 1929, a chain of lighted aerodromes from Winnipeg to Edmonton via Regina and Calgary had been prepared and a contract for the carriage of mails had been let to Canadian Airways by the Post Office Department.

Present practice requires radio-beam and two-way communication stations along the airway at intervals of about 100 miles between the terminal airports. Adjacent to these and directly in the path of flight secondary aerodromes are constructed. These are not necessarily stopping points but they afford a safe landing in case of need. The number of additional intermediate aerodromes considered necessary for safety varies with the type of country. In open, settled farm lands, where there are no mountains and where the weather is normally fine, they may be dispensed with altogether or spaced at intervals of about fifty miles between the major airports. Owing to the nature of the climate and the difficult physical character of the terrain in the Rocky Mountain region and Northern Ontario, where there are absolutely no alternative emergency landing places, the spacing averages about thirty miles.

The Trans-Canada Airway when finally completed will consist of a chain of airports from 30 to 50 miles apart reaching from Moncton to Vancouver. All important communities in Canada not on the line of the Trans-Canada Airway will be connected with it by branches, and arrangements for exchange of international traffic with the airway system of the United States at cities near the border are being perfected.

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No. 166. Wed. March 15, 1939 -- The Short Grass Plains

The great tract of land in the so-called drought area, in the provinces of Manitoba, Saskatchewan and Alberta, or correctly speaking, the short grass plains, comprises over 105,000,000 acres of land, of which 78,000,000 acres are classified as farm lands and 47,000,000 acres as improved farm lands. Twenty-five million acres are recorded as pasture and range lands. It should not be forgotten, says Dr. E. S. Archibald, Superintendent of Dominion Experimental Farms, that the average grain production in this area during the past 16 years constitutes not only a high percentage of the grain grown in Western Canada but a very high percentage of the finest quality product, the average being, wheat 240,000,000 bushels, oats 150,000,000 bushels, and barley 40,000,000 bushels per annum. This area carries about 2,250,000 head of cattle and about 1,000,000 head of sheep.

Without doubt soil drifting has been one of the greatest difficulties that has to be contended with during the recent drought period, and the conclusion often reached is that this drifting land must of necessity be poor and hence should be taken out of agriculture. It is true that light soils have deteriorated owing to soil drifting, but it is equally true that many times the same area of the richest clay and clay loam soils have also been subjected to soil drifting. These good soils with a proper system of agriculture have the power of carrying a dense rural population.

Again, the absence of water in the drought area has led many persons to believe that very large-scale irrigation of wheat lands would be the permanent solution of recent difficulties. These persons may not realize that mountain streams constitute the most reliable source of irrigation water during drought years and that, if all the water which flows into the Saskatchewan and its many tributaries were used for irrigation purposes, it is quite improbable that there would be available more than six or seven million acre feet of water. Hence it is obvious that a cultural programme dealing largely with dry farming methods is outstandingly the most important, although the conservation and the use of all moisture must not be neglected.

One of the most encouraging features of the cultural programme has been the willingness of farmers in groups, ranging from fifty in number to three or four hundred, to organize into agricultural improvement associations to control soil drifting; to establish seed supplies in the various districts; to organize for the development of shelter belts for the home and the field, and to establish seed centres for drought resistant cereals and grasses. There are now about 130 Agricultural Improvement Associations, with a membership of 20,000 farmers, located in the sections where drought is most prevalent. With the aid of technical officers of the Dominion Experimental Farms, these farmers are successfully overcoming their difficulties.

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No. 167. Thurs. March 16, 1939 -- New Hybrid Varieties of Poplar

More than 2,000 new hybrid varieties of poplar trees have been produced within the past two years by the Dominion Forest Service of the Department of Mines and Resources, in collaboration with the Department of Agriculture and the National Research Council of Canada. This work is being carried on in the laboratories and greenhouses of the Research Council and the greenhouses at the Central Experimental Farm in Ottawa, and in the tree nurseries at the Petawawa Forest Experiment Station, Chalk River, Ontario. The object of this extensive forest tree breeding programme is to produce rapid-growing and disease-resistant varieties of poplars suitable for pulp and match stock and drought-resisting varieties for shelter belt planting in the prairie sections of Western Canada.



About 1,500 varieties are primarily designed for testing as shelter belt trees in the Prairie Provinces. Trees for this purpose must be resistant to drought, frost and wind, and to furnish these characteristics the native aspens found in the vicinity of Calgary are used. Branches of these trees are shipped to Ottawa during the winter months when the male flowers are dormant, and the pollen is dusted on to flowering branches of the different hybrid and other varieties of poplar available at the Central Experimental Farm. Approximately 200 natural poplar hybrids have already been identified in the vicinity of Ottawa.

It is hoped that in addition to developing a hybrid that will withstand prairie climatic conditions, a strain will be found that is not susceptible to heart rot. If successful this will mean that mature trees in shelter belts, having served their purpose as agents of protection and beauty, can be further utilized as merchantable timber for manufacture or for domestic purposes.

The remaining 500 hybrids recently developed will be tested for rate of growth and resistance to rust in the anticipation that amongst them will be found a healthy, fast-growing strain suitable for match stock and pulpwood production in the forests of Eastern Canada.

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No. 168. Fri. March 17, 1939 -- St. Patrick's Day

Today is St. Patrick's Day and Irish people all over the world are celebrating. St. Patrick is the patron saint of the Irish race and has become for them and other peoples also a symbol of war against sin. The serpent was the creature which for its evil conduct was condemned by the Creator to travel on its belly. Tradition tells us that St. Patrick left Scotland to become a missionary in the Emerald Isle and, discovering that there were snakes in the country in abundance, made up his mind to drive them out. Every son of Ireland knows the thrilling story of how he accomplished this.

Another very unusual thing about Ireland is the haunting beauty of its music. The Irish people have given to the world sad and plaintive melodies that are known and sung everywhere. The harp is traditionally Irish and that beautiful stringed instrument has found a place not only on the Irish flag but also on the Royal Standard. Unwieldy as it is to carry around, it yet has its place in the home of every family of distinction in Ireland. In this country we are familiar with it in stringed orchestras, and the small, portable harp may still be found in many homes from coast to coast.

There are about a million and a quarter people of Irish origin in Canada. They rank third in numbers amongst the British races in this country, coming behind the English and Scots. At the time of Confederation they were first, leading the Scots and English by good margins. They have been true to their traditions, because they are not pronouncedly city dwellers. Most of them are to be found on the farms and in the rural villages.

Comparatively speaking, there are not so many Irish in Canada as there used to be. It seems that the Irish emigrant has been wandering to the United States more than to Canada. The 1931 Census shows that there were only 108,000 in the country who were born in Ireland, whereas there were 280,000 people born in Scotland and 724,000 in England.

The main strength of the Irish in Canada is in Ontario, just behind the line of the earlier settlement, and stretching from Lake Huron to the Ottawa River. In Ontario they are the second racial group in numbers, coming next after the English.

No. 169. Sat. March 18, 1939 -- Canada and Russia

We have been hearing more about Russia recently than for some years, and it will be worth while to refresh our memories of what occurred to bring into being the U. S. S. R., the Union of Soviet Socialist Republics.

On March 17, 1917, following a revolution in Russia three days before, Czar Nicholas II abdicated. A republic was declared, and on November 7th of the same year a military revolutionary committee seized control and transferred the government authority to the All Russia Congress of Soviets. The federal system was adopted by the 10th All-Russian Congress of Soviets on December 31, 1922. The U. S. S. R. Government was recognized by Great Britain early in 1924 and became a member of the League of Nations in 1934.

The Soviet Union covers the greater part of the old Russian Empire, out of which also emerged the independent states of Poland, Finland, Estonia, Latvia and Lithuania. Prior to the Great War the Russian Empire covered more than 8,500,000 square miles, or very considerably more than twice the size of Canada, and had a population of about 183,000,000, the rural population being 80 per cent. The U. S. S. R. has an area of 8,241,673 square miles with 165,805,000 population.

The Russian Socialist Federal Soviet Republic (Russia proper) consists of 50 governments and includes 11 autonomous republics and 10 autonomous provinces. Local government was and still remains highly developed.

Under the Bolshevik regime popular education is administered by a commissary, in whose charge is placed all educational institutions, theatres, museums and galleries. The Government controls practically all the printing and publishing trades.

The Orthodox Church was disestablished by the Bolsheviks and its property confiscated, and the teaching of religion to persons under 18 years of age forbidden. But the law did not forbid the exercise of religion and churches remained open. A recent questionnaire addressed to soldiers of the Red Army showed that 70 per cent believed in a Deity.

Apart from the Russian Socialist Federal Soviet Republic with Moscow as its capital, the leading republic is the Ukraine with Kieff as its capital. It has an area of 174,372 square miles, or less than half the area of Ontario, but it has a population of 32,000,000. It was invaded by Germany in 1917-18 and subsequently overrun by Bolshevik forces. The majority of the inhabitants belong to the Greek Orthodox Church. It is the great cereal-growing district of the U. S. S. R. The other republics are Transcaucasia, which includes Armenia, Georgia and Azerbaijan, White Russia, Turkmenistan, Uzbekistan and Tajikistan.

Canada's trade with the U. S. S. R. rose to over \$11,000,000 in 1925, then dropped to \$73,000 in 1932, and has been gradually increasing since then. It was \$1,293,000 in 1938. We get soda and compounds, coal and furs mainly, and we send much aluminium.

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No. 170. Sun. March 19, 1939 -- Mackenzie River Tribes

Eight Indian tribes shared the basin of the Mackenzie River: Chipewyan, Beaver, Sekani, Slave, Yellowknife, Dogrib, Hare and Nahani. The population even in pre-European times was very sparse, hardly exceeding 10,000. Today it is only about 4,000, excluding some Crees of Algonkian stock who have migrated into the territory.



Dense forests of coniferous trees clothe the valleys of the Mackenzie and its tributaries. Outside these valleys lie stretches of grassland in the south and, in the north, treeless tundra or rocky wastes dotted with innumerable lakes. The birch tree gradually yields to the spruce; the moose, the deer and the beaver fade away before the caribou and the musk-ox. On the whole the fish and game are less plentiful and the climate much harsher than in Eastern Canada.

The eight Mackenzie River tribes spoke a single language, Athapaskan, also spoken in Alaska and down the western face of the Rockies as far as California. Some scholars connect it with the Sinitic languages of China, Tibet and Siam, and believe that the Mackenzie River Indians and their kinsmen were the last people to migrate from Asia into America, arriving here not many centuries before the Christian era. However, in physical appearance the present-day Indians seem to resemble the natives of Eastern Canada more than they do any Asiatic people.

They subsisted on fish and game, with the addition of wild fruit. Caribou, sheep and goats roamed the western mountains and in the Peace River Valley herds of buffalo. Along the lower Mackenzie the Indians snared so many hares that one tribe derived its name from the animal. Bears were fairly common everywhere. Nearly every lake abounded with fish, especially whitefish.

They were skilful in the use of nets, snares and traps. The nets were made of willow bark or babiche (thongs of caribou hide.). They often speared caribou in the water from their canoes, but shot down the musk-ox with arrows. Their beautiful hunting dog, white with black splotches on head and rump, is almost extinct.

The summer dwelling was a conical framework of poles covered with caribou hides, spruce bark or simply brush. This served the Chipewyan for winter also, but the others preferred rectangular huts, roped with spruce bark and chinked with moss.

Like other Indians who lived by the chase, the Mackenzie River tribes owned few tools and practically no furniture. In most of their knives the blade was a beaver tooth; only a few had blades of stone or native copper. Embroidery in porcupine quills obtained amongst them its highest development and the mesh bags of babiche were very attractive. Bark canoes in summer and toboggans and snowshoes in winter were characteristic.

No government was recognized, only common needs and ties of blood. Men wrestled for each other's wives, who meekly followed the victors. Dancing was the favourite pastime. They lacked faith in a Supreme Being, or even in mighty deities to whom the native could turn in time of trouble. Life was precarious but death faced with indifference because of belief in a vague after-life.

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No. 171. Mon. March 20, 1939 -- Phosphorus in Agriculture

Phosphorus is the most widely used element in commercial fertilizers, states a scientist in the Department of Agriculture. It is one substance that must be purchased and returned to most soils if their fertility is to be maintained. Phosphorus has been called "the key to permanent agriculture".

Phosphorus is present in all plant cells, being an essential constituent of the nucleus and also necessary for cell division. Phosphatic fertilizers cause a stimulated root growth and hastened maturity of most crops. The cereals generally give an increased ratio of grain to straw after its application. The legumes require relatively large amounts of phosphorus and show response to its use on most soils. Many other crops give an increased yield of a superior quality of produce

when supplied with sufficient phosphorus.

This element is present in all soils though the total percentage is small in even the most fertile lands. Crop growth is more dependent on the amount that is made available for plant use than on the total amount in the soil. The element phosphorus does not occur as such in the soil but always in combination with some other elements, generally in the form of a phosphate. It must be in this form before it can be used by the plant. All phosphatic fertilizers contain the phosphate form though it is reported as phosphorus pentoxide or phosphoric acid as it is generally called.

Bones were the first phosphatic fertilizer used, though it was not known at first that the phosphorus was the important fraction. About one hundred years ago it was found that by treating ground bones with sulphuric acid an improved type of fertilizer was formed. This material became so popular that the supply of bones was not sufficient to meet the demands. Bone meal is still used for certain crops though the amount is small in comparison with other phosphatic fertilizers.

Raw rock phosphate, which is the finely ground phosphatic rock, was used rather extensively for a while and is still in demand in certain districts. Basic slag, a by-product in the manufacture of steel, is another form of phosphatic fertilizer. The phosphorus which was originally combined with the iron ore is changed to a calcium phosphate during the smelting process. This material is extensively used in areas where it is available.

Various organic fertilizers such as dried blood, tankage and cottonseed meal contain some phosphorus though these materials are generally used because of their nitrogen content. The various kinds of phosphatic fertilizers have been developed for different types of soil and crop.

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No. 172. Tues. March 21, 1939 -- Mosquitoes

The pesky mosquito will be with us in a little while, and the Department of Agriculture brings along some timely advice, also, an effective protection.

The larvae and pupae of mosquitoes develop only in stagnant water bodies, and the application of a thin film of petroleum oil on such places in May and early June will destroy countless numbers of them. To be really satisfactory such work should be properly planned and carried out on a community scale.

For protection from mosquitoes once they are on the wing, various repellents are in general use, among which, to name only a few, are oil of citronella, spirits of camphor, oil of lavender and oil of cedar. As a result of recent experiments carried out in Ottawa under the direction of the Dominion Entomologist a repellent mixture has been developed which has proved more satisfactory and more lasting in effect than any hitherto in popular use. This repellent is easy to mix and the formula is quite simple. It is as follows:

Oil of thyme .....	1 fluid ounce
Concentrated kerosene extract of pyrethrum .....	2 fluid ounces
Castor oil, or olive oil .....	5 fluid ounces

Each ounce of the pyrethrum extract should be equivalent in strength to one-fifth of a pound of good grade pyrethrum powder. This mixture when applied to exposed parts of the skin has been found to give protection from mosquitoes and other biting flies for periods varying from three to five hours.



No. 173. Wed. March 22, 1939 -- The Iroquois - 1

Canada was discovered by the Iroquoian tribes only a few centuries before Columbus discovered America. They came north from the Ohio River basin about 1200 A. D. and occupied Southeastern Ontario, the valley of the St. Lawrence and the country immediately to the south. In early historical times they were divided into two main groups: (1) The Huron, Tobacco and Neutral Nations of Southeastern Ontario, (2) The Five Nations of the Iroquois -- Mohawk, Oneida, Onondaga, Cayuga and Seneca -- from Lake Champlain and Lake Ontario.

Both groups obtained firearms in the 17th century, the Hurons from French Canada and the Five Nations from the Dutch and English traders in the United States. The Five Nations then overwhelmed the Ontario Indians and took possession of their territory.

The Iroquois were the first farmers in the Dominion. All other Indians lived exclusively on fish, game and native fruits, but the Iroquois, who had brought corn, beans and squash from their southern home, converted South-eastern Ontario into a rich farm belt. They grew corn enough to last them throughout the winter and never suffered from the famines that often visited their non-agricultural neighbours. Thus they were able to settle in one place and build for themselves permanent homes. Seventy-five per cent of their food came from the soil.

Most of the Iroquois today live on three reserves, one at Brantford in South-eastern Ontario, the second at Caughnawaga, near Montreal, and the third at Lorette, near Quebec City. On these and several smaller reserves in Ontario and Quebec there are about 8,000, and about the same number in New York State. In appearance they are very similar to the Europeans. Some of the younger people leave the reserves permanently every year and merge with the European population of Eastern Ontario.

They lived near their corn fields in small villages, which they often surrounded with palisades as a defence against enemies. Only rarely were there more than 30 houses in a village, but each house was shaped like a large barn and was capable of sheltering 15 or 20 families. There was a doorway at each end, and down each side a row of cubicles, each the home of a family.

They did not encumber themselves with much property. Their houses, though built by the men, belonged to the women, as did all the household property -- principally clay cooking pots, ladles and bowls, chests for the storage of corn, mortars and pestles, baskets, sleeping mats and skins. It was a simple household requiring few tools -- stone bladed axes and knives, wooden drills for kindling fires, bone scrapers and awls. One object was conspicuous in every home, the wooden cradle in which the mother carried her baby.

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No. 174. Thurs. March 23, 1939 -- The Iroquois - 2

A little more about the Iroquois may be instructive, as showing why it is that these people have contributed so much, both directly and indirectly, to the development of modern Canada.

They were essentially farmers and traders. The Hurons bartered corn for the furs, canoes and medicinal remedies of the Ojibwa, and the Tobacco Indians were so named because of the enormous quantities of tobacco they raised for trading purposes.

Highly prized, owing to their beauty and scarcity, were the beads made from clam

and other shells by the Indians on the New England coast. When Europeans introduced iron tools these beads (wampum) became much more numerous and were traded far inland. They were of two colours only, white and purple; white symbolized prosperity, peace and goodwill, and purple symbolized death, disaster or war. The Indians used them for four purposes: personal decoration, currency, records, and, in the form of belts and sashes, for the ratification of treaties.

Although the Iroquois trained for warfare, they never developed a thorough military system. Their war parties, unless a whole tribe was endangered, called for volunteers only -- there was no conscription. Indeed, the volunteers might return home whenever they wished.

In early times their weapons were the knobbed wooden club and the bow and arrow. They acquired the tomahawk after the Europeans came. Many warriors wore armour of slatted wood and carried wicker shields covered with rawhide.

More than any other Indians in Canada the Iroquois possessed a genius for political organization. The Hurons and the Neutral Nations were confederations governed by elected councils. The League of the Iroquois or Five Nations (Mohawk, Oneida, Onondaga, Cayuga and Seneca) had a governing council of 50 Sachems or chiefs, who met several times a year to receive and appoint embassies, to decide on questions of war and peace and to discuss other matters that affected the whole confederacy.

The method of electing these sachems was very unusual. The Iroquois did not trace their descent through their fathers, as Europeans do, but through their mothers. The head of each group was the eldest woman and not the oldest man, and it was she who, in consultation with the other women, elected a councillor. She not only appointed him but could also depose him if he acted contrary to her wishes. It is worth while remembering this when we recollect that it was only towards the end of the Great War that the right of women to vote was granted by the Dominion Parliament. Not all the provinces even yet grant women the vote.

Women held an honoured place in Iroquoian society and played a prominent part in the many festivals that enlivened the yearly round. They participated in the public dances, and even joined in the men's games, although they had games of their own. The most popular athletic game was lacrosse. The Iroquois were fond of singing. All their dances were accompanied by singing; their prayers and lamentations were chants; they had chants of war and victory, love and play songs and lullabies. Lovesick youths played melodies on a six-holed flute. The eloquence and dignity of Iroquois orators amazed the early Europeans.

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No. 175. Fri. March 24, 1939 -- Dairying Beginnings

At present there are approximately 318,000 farmers in Canada keeping dairy cows. In addition, about 50,000 persons are employed in plants that are engaged in the manufacture and distribution of dairy products. The progress of the dairy industry to such a relatively important position in the economic life of the country has been steady, with the largest development in the provinces of Ontario and Quebec.

As to the origin of the dairy industry in Canada, Sable Island, Dr. H. A. Derby tells us, off the coast of Nova Scotia, was in all probability the scene of the first introduction of domestic cattle to this side of the Atlantic. These cattle were brought over from France in the year 1518. It was not until about 1608 that the first permanent introduction of cows into Canada was made by Samuel de Champlain at Quebec. During the following years small herds were introduced into what is now



known as the Maritime Provinces. In the memorable years of 1783-84, the United Empire Loyalists made further additions to the live stock of these provinces and also into what was then known as Upper Canada. It is just little over a century ago since cattle were introduced into the Prairie Provinces and British Columbia. They were brought into the country from Oregon and California by the Red River Colonists and the Hudson's Bay Company. From those humble beginnings the cattle industry has grown steadily. The number of cows in Canada today is about four million head.

To attain the measure of success which the dairy industry in Canada now enjoys, it has been necessary for both the Dominion and the Provincial Departments of Agriculture to give assistance and direction. The Dairy and Cold Storage Branch, now known as the Dairy Products Division, Dominion Department of Agriculture, was organized in 1890. The activities of the Division have been associated mainly with the inspection, grading and marketing phases of the industry, at the same time doing everything possible to assist the producer, demonstrating to him that the best returns are made from the best quality products; that the market is never glutted with quality goods, and that a product properly produced is already more than half marketed. It is the function of the Dairy Products Division to enforce the law and regulations in connection with the manufacture and sale of dairy products in Canada. The inspection, grading and cargo services of the Division have been of great assistance in improving the quality of dairy products.

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No. 176. Sat. March 25, 1939 -- Canada and Norway

There are in Canada about 100,000 people of Norwegian origin, and one-third of them were born in Norway. They have made themselves known as good settlers and good citizens. Most of them live in rural Canada. But the Norwegian influence in Canada is stronger than the numbers indicate. There is much Norse blood in the French Canadians, the Anglo-Saxons, Scots and indeed in all those Canadians whose ancestors dwelt in the countries bordering on the North Sea. For the Norsemen were great sailors, traders, pioneers and colonists long ago. There are traces of their stay in Canada, linked with traditions of nearly a thousand years ago. What happened to them we can only guess; possibly they were absorbed by the aborigines. There are white Eskimos with blue eyes in the far north today.

Norway today is a highly developed and progressive country. It has been an independent kingdom since 872 A. D. It was united with Sweden from 1814 to 1905 when the two countries decided by friendly agreement to dissolve the union. Haakon VII became king in 1905. Princess Maud, daughter of Edward VII of Great Britain, is his queen.

The area of Norway is 124,556 square miles or about one-third the size of Ontario, and the population nearly three million. The surface is mountainous, the cultivated area about one-fortieth part of the country. Forests cover one-fourth and the rest is highland pastures and uninhabitable mountains. The Norwegian merchant fleet ranks fourth amongst the merchant fleets of the world; in normal years the quantity of fish caught by the fishing vessels is greater than that of Great Britain.

Education in Norway is highly advanced. It is free and compulsory between the ages of seven and fourteen. There are many special schools and industrial and technical institutes. The University of Oslo is attended by about 4,000 students. Oslo is the capital with a population of over a quarter of a million.

Service in the National Militia is universal and compulsory. In time of war all males between 18 and 55 are liable for service. The navy consists of four ironclads,

17 torpedo-boats, five destroyers, nine submarines and several mine-layers. There are about 140 sea and airplanes.

Canada's trade with Norway is quite important. Last year it totalled \$8,587,000. Our chief import was sardines, of which we got close to four million boxes. We also got cod liver oil, iron ore and fertilizers. We sent nickel, wheat, rye, flour, rubber, copper and carbon electrodes.

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No. 177. Sun. March 26, 1939 -- The Royal Standard

We are going to see the Royal Standard flown when the King and Queen visit us in May. When and where is made clear by article 43 of the King's Regulations, in which is set forth:

"The Royal Standard, being the personal flag of the Sovereign, is not to be displayed in future on board His Majesty's ships or on official buildings, as has hitherto been customary on His Majesty's birthday and on other occasions, but shall only be hoisted on occasions when the Sovereign is actually present or when any member of the Royal Family is present representing the Sovereign. In such case that member of the Royal Family may fly the Royal Standard for the time being but on no other occasion."

The Royal Standard, therefore, is a personal flag and should never be flown in street or other decorations. It is equally true that the Scottish Standard is as much a personal flag as the Royal Standard and should never be flown in street decorations instead of the real Scottish national flag, the white diagonal cross of Saint Andrew on the blue field. However, in the latter case, use and wont seem to decree that wherever Scots gather they may, or at least they will, fly the lion rampant on the old gold ground which was borne by William the Lion Heart.

The Royal Standard of the British king is the personal flag which symbolizes the union of the British powers throughout the world. The three golden lions stand for England, the red lion rampant for Scotland, and the golden harp for Ireland, representing the three kingdoms from which the Empire grew.

How the three golden lions of England on a red field originated is not very clear. Two of the lions were assigned as the arms of William the Conqueror. Richard Coeur-de-Lion in the Crusade bore two lions combattant on his banner and they appeared so on his great seal, but on his second seal were the three lions passant, which have been described as his father's arms.

It is impossible here to describe the many changes that have been made in 700 years in the Royal Standard, but one or two should be mentioned. Edward III, claiming to be King of France as well as of England, placed the fleurs-de-lys on the first quarter of his flag, the place of honour, and they remained there for nearly 400 years. The Scottish lion was added at the union of the crowns in 1603, and the Irish harp in the same year, although the conquest of Ireland was not completed until the surrender of Limerick in 1691. An early standard of Ireland has three golden crowns on a blue field. The first English sovereign to use the Irish harp was Queen Elizabeth who introduced it in the design of her great seal.

Feeling ran high among the Scots when their lion was placed on the second quarter of the flag, their claim being that Scotland was a more ancient kingdom than England, and so two Royal Standards were made, one with the lion rampant in the first quarter to be flown in Scotland and the other with it in the second quarter to be flown in England. When the fleurs-de-lys were placed on the border surrounding the lion rampant



is lost in antiquity, but undoubtedly they are emblematic of the ancient alliance between the French and the Scots.

On the accession of George I the arms of Hanover were added, but were removed on the accession of Queen Victoria in 1837.

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No. 178. Mon. March 27, 1939 -- Flags Flying

Yesterday we were talking about the Royal Standard. Perhaps something more about flags and bunting will not be amiss, for in May we are going to see a blaze of colour from coast to coast. Banners and bunting will fly from homes and business and public places. Water craft and land carriers will be decorated. The Union Jack will predominate. It is the land flag of Canada as well as of the Empire. Every British dominion except Canada, however, has a distinctive flag of its own, and all but the flag of Eire include the Union Jack in the design.

Three ensigns will be observed -- the White, the Red and the Blue. These originated when the British fleets were divided into centre, van and rear. Each division had its admiral, vice-admiral and rear-admiral, and in order that each flagship might be distinguished, the three separate ensigns were designated.

The White Ensign bears the red cross of St. George on a white field with the Union Jack in the upper left hand corner. None but ships of the British or Dominion navies is permitted to use it, and severe penalties are imposed when any other vessel does so. The Blue Ensign is confined to vessels in the public service. The Red Ensign is for the Merchant Marine.

Ships of the Royal Canadian navy fly the White Ensign at the stern with the Canadian Blue Ensign on the jack staff at the bow. It has the Canadian coat-of-arms on the fly. Canadian Government ships, or ships of the Canadian Merchant Marine commanded by Canadian or British reservists, fly at the stern the Blue Ensign with the Canadian coat-of-arms on the fly.

No doubt the Red Ensign will be much seen on land in May, although it is not properly a land flag. Sir John A. Macdonald first ordered the Red Ensign to be used as the Canadian flag and for many years it was flown over all Canada's public buildings. Later the Union Jack was substituted. It is improper to use the Union Jack as a marine flag.

Another official flag in Canada is that of the Governor-General. It was authorized by Royal Warrant in 1938. A crown in gold is centred on a blue field, and beneath it the word Canada in black on a gold ground.

The oldest standard in Canada is that of Nova Scotia. It was given by Royal Warrant in 1600. It is a white flag with a blue St. Andrew's Cross and a red lion rampant on a gold shield in the centre.

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No. 179. Tues. March 28, 1939 -- Floral Water Nymphs

The mere fact that the Water Lily family (Nymphaeaceae) is named after the nymphs invokes romance and mysticism, and at once recalls those mythological, semi-divine maidens and ever youthful spirits of Nature who inhabit rivers and fountains, writes

E. W. Hart, in his series "The Wonderland of Botany".

The lotus of Egypt and the sacred lotus of India and China are beautiful water lilies. Was it not Brahma who came forth from the centre of a lotus; and Buddha who first appeared floating on the mystic flower?

But it may be remembered that the name Lotos (Latin, Lotus) was given by the Greeks to a number of different plants, including the Jujube Tree of North Africa. It is claimed that it was upon the fruit of this tree that the famed Lotus-eaters lived. According to Homer they received Ulysses and his followers hospitably; but the sweetness of the fruit induced such a feeling of happy languor that they forgot their native land and ceased to desire to return to it, their sole object being to live in delicious dreamy idleness in Lotusland. Alas, this ideal plant will not grow in Canada!

The true water lily has been for ages sacred to the people of the East, while we of the West venerate this enchanting flower as queen of our native aquatic plants, not only because of its aesthetic properties, but also on account of its gastronomic value.

The beautiful sweet-scented White Water Lily (*Castalia odorata*) which grows from Nova Scotia to Manitoba has edible buds. The roots, seeds and leaves of the Yellow Nelumbo of Ontario are eaten, as are the seeds and roots of the Large Yellow Pond Lily (*Nymphaea Advena*), while the Great Yellow Pond Lily of British Columbia (*Nymphaea polysephala*) has seeds which may be prepared in much the same way as popcorn.

There should be a place in every garden of any size for cultivated water lilies. Their culture in tubs, casks or fountains on the lawn is not difficult, and charming results may be obtained with small outlay of either money or time.

Many lovely exotic species may be grown in the greenhouse. Of these the largest known and most amazing of them all is the *Victoria regia*, a magnificent plant of gigantic size, and a denizen of the tributaries of the River Amazon in Brazil.

The floating leaves of *Victoria regia* are six feet or more across, circular with an upturned rim several inches high. The leaf-tissues are full of air spaces which render the leaves so buoyant that they can support the weight of a fair-sized man. The water-lily-like flowers, consisting of many hundreds of petals, are more than a foot across, and open on two successive evenings. The first time a *Victoria* opens, the inner petals over the stigma (entrance to the seed-vessel) remain unexpanded and the flowers are creamy white with a delicious fragrance. It closes the next morning to open again at dark; this time expanding to its fullest extent, but has become rose-red in colour with a disagreeable odour. The flower is then closed forever and is withdrawn, nymph-like, beneath the surface of the water.

This wonderful plant has been successfully cultivated in several English hot-houses. Beautiful specimens may be seen in the Royal Botanic Gardens, Kew. The first flower that bloomed in England was presented to Queen Victoria, in whose honour it was named.

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No. 180. Wed. March 29, 1939 -- Cascara

There is a report abroad that a tree has been discovered in the British colony of Kenya in East Africa that yields a medicine equal in value to the Cascara Sagrada which comes from the bark of a buckthorn on the Pacific coast.

British Columbia, Washington and Oregon have up to now been the sole sources in the world of the commercial supply of cascara bark, and it has been generally accepted by scientists that it will thrive only in a cool climate with plenty of moisture.

Much of the bark is gathered in the Fraser Valley and on Vancouver Island. The average yearly harvest is close to three hundred tons. Less than fifty tons is required in Canada and the balance goes to Europe and the United States. Sometimes the tree is referred to as the California Buckthorn.

Cascara Sagrada is one of the most useful laxatives, since it also acts as a tonic to the intestines and tends to prevent future constipation. It is the principal constituent of most of the proprietary laxatives on the market.

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No. 181. Thurs. March 30, 1939 -- The Algonkians

The Algonkian peoples have inhabited Eastern Canada for as far back as we have been able to trace. They were divided into the following tribes: Beothuk, Micmac, Malecite, Montagnais, Naskapi, Cree, Algonkin and Ojibwa. Most numerous were the Cree and Ojibwa who together may have numbered 50,000. The Beothuk of Newfoundland, who numbered only about 500, were exterminated early in the 19th century.

The Micmacs were located in the Maritime Provinces, the Naskapis north of the Gulf of St. Lawrence, while the territory of the Algonkins was north of the Ottawa River, west of the St. Maurice. The Montagnais and the Malecites were east of the St. Maurice, the former to the north and the latter to the south. West of the Algonkins and to the north of Lake Superior, all the way to Lake Winnipeg dwelt the Ojibwas, while to the north of all these tribes were the Crees, stretching north until they met the Eskimos. In short the Algonkians inhabited all the uplands of Eastern Canada from Lake Winnipeg to the Atlantic. They were often called the Birch-Bark Indians.

Some scholars maintain that the Algonkians were of partly white descent and that they entered America from North-eastern Asia long before most of the Indians of the New World. However, during the last four centuries they have intermarried extensively with French and British colonists; so it is difficult to tell exactly what they looked like prior to European settlement. It is conjectured that they were taller and slighter than the Iroquoian tribes. The earliest artists give them a very European-like appearance, so that their complexions must have been quite fair.

The Algonkians did not cultivate the soil; they were skilful hunters. They were continually on the move and their dwellings were portable wigwams, domed and conical, covered with skin, bark or rush mats. They were often short of food in winter; at times whole families died of starvation. Their favourite food was the flesh of the moose. For fishing they used lines with bone hooks, wooden spears with bone hooks, nets of nettle fibre, and wicker traps. They did night fishing with torches blazing in the bows of their canoes. Very few tools were needed.

From the Algonkians we learned the use of snowshoes and other toboggans; their birchbark canoes were the models for our canoes. The Ojibwa canoe, with its rounded bow and stern, was the most graceful.

Every Algonkian tribe consisted of a number of small bands, each of which occupied a definite hunting territory. Neither the tribe nor the band recognized a real chief. At irregular intervals the bands united in festival. They had no enemies except the Iroquois south of the St. Lawrence. They believed in a Great Spirit, but deeming him too remote to trouble greatly about human affairs, they generally pinned their faith to lesser deities, to the spirits of nature -- the sun, points of the compass, mother earth and others -- and, to an even greater extent, to the spirits of birds and animals. Every hunter carried with him a charm. There was only one religious organization, the Grand Medicine Society of the Ojibwa.

Three centuries ago all the Algonkian peoples decorated their clothing with porcupine-quill or moose-hair embroidery, but this disappeared rapidly in favour of silk-work and bead-work.

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No. 182. Fri. March 31, 1939 -- Wild Ducks

Wild ducks are now a timely topic of conversation, for those that have been in the south through the winter are returning north again. Sportsmen and other outdoor life devotees may be interested to know that at least twenty-two species of wild ducks occur in Canada. Although some parts of Canada offer several kinds of ducks to the hunters, not all the species are common across the Dominion. For instance, the black duck is restricted to the eastern half of Canada, while the most important mallard areas are from the eastern boundary of Ontario westward to the Pacific coast. Some varieties common in one part are exceedingly rare or entirely absent in other regions.

Ornithologists and conservationists have by observation and study mapped out the breeding and wintering grounds for practically every species of wild duck. Of late years, the placing of numbered metal official bands on thousands of wild waterfowl has resulted in accumulation of exact scientific data through which the distribution of wild ducks over the continent may be accurately determined. This bird-banding scheme, a co-operative investigation being conducted by the Canadian and United States Governments, has not only yielded information on the dispersal of wild birds and on their migration routes, but many other important problems relative to the general life histories of all kinds of wild birds have been studied by the banding method.

Persons in Canada who recover banded birds are urged to assist in this important investigation concerning a valuable natural resource by reporting complete details to the Controller, National Parks Bureau, Ottawa. Such reports may be mailed postage free if the envelopes are marked O. H. M. S.

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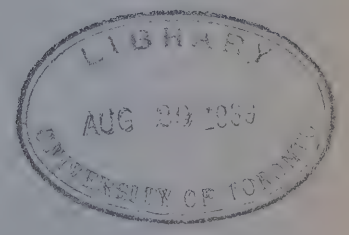
**A FACT A DAY ABOUT CANADA**

FROM THE

**DOMINION BUREAU OF STATISTICS**

**APRIL 1939**

**FIFTH SERIES**



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James Muir,  
Editor.



Erratum - Line 14, Page 130, should read: "The unmarried males numbered 1,183,787 and the unmarried females numbered 1,099,216, making a total of 2,283,003 unmarried, with children included."





A Fact a Day about Canada

from the

Dominion Bureau of Statistics

No. 183. Sat. April 1, 1939 -- April

April was the second month of the old Roman calendar. The derivation of the name is uncertain, but the traditional etymology is that it came from the Latin *aperire*, to open, the allusion being the season when trees and flowers began to open.

April 1 is All-Fools' Day, the name given on account of the custom of playing practical jokes on friends on that day. The origin of the custom has been much disputed. It is a relic of those once universal festivities held at the spring equinox which began on old New Year's Day, March 25, and ended on April 1.

In India, at the feast of Huli, the last day of which is March 31, the chief amusement is the befooling of people. It was not apparently until the beginning of the 18th century that the making of April Fools was the custom in England. In Scotland the custom was known as "hunting the gowk", that is, the cuckoo, and the April-fools were "gowks", the word cuckoo being used in that sense, as it is in most lands, as a term of contempt. In France the person befooled is called "poisson d'avril."

The special flower of April is the daisy, and its gem is the diamond. Easter is almost always celebrated in April, although the date of the observation varies.

There have been some great events in April in which Canadians are particularly interested. It was on the first of April, 1793, that Thayandanagea, the famous Iroquois chief, obtained the Bay of Quinte Reserve for the Mohawks, one of the Six Nations of the Iroquois and to which he belonged. To most Canadians he is better known as Joseph Brant. Capt. George Vancouver set sail from England on the Discovery to survey the Pacific Coast of North America April 1, 1791. Three cent postage and postal savings banks were inaugurated on this date in 1868, and the first Colonial Conference was held on April 1, 1887.

Prominent people who were born in April include Hans Christian Andersen, Oliver Cromwell, Washington Irving, Shakespeare, Duke of Wellington, William Booth, Colonel "Joe" Boyle and Alexander Muir, who wrote "The Maple Leaf Forever." Madame Albani died in London in April, 1930, after living in England for half a century. D'Arcy McGee, M.P., was assassinated in Ottawa on April 7, 1868. It was in this month that the Titanic was sunk and Napoleon was sent to Elba.

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No. 184. Sun. April 2, 1939 -- First Dominion Census

The first Census of the Dominion of Canada was begun on April 2, 1871, just 68 years ago today. The population of what now forms the Dominion was 3,689,257. The 1931 Census placed it at 10,376,786. The estimated population today is about 11,280,000. At the same rate of progress the population at the next Census of 1941 will be in the neighbourhood of 11,500,000.

Some information regarding the population of Ontario, Quebec, New Brunswick and Nova Scotia in 1871 will be of interest. The birthplaces of the people were mainly: Quebec 1,147,664; Ontario 1,138,794, Nova Scotia 360,832, New Brunswick 245,068, Ireland 219,451, England 144,999, Scotland 121,074, United States 64,447, Germany 24,162, Prince Edward Island and Newfoundland 7,768, France 2,899, Austria 1,928,

Channel Islands 852, Scandinavia 588, Russia 416, Spain and Portugal 305, Italy 218.

The origins of most of the people were: French 1,082,940, Irish 846,414, English 706,369, Scots 449,946, German 202,991, Dutch 29,662, Indian 23,035, African 21,496, Welsh 7,773, Swiss 2,962, Scandinavian 1,623, Italian 1,035, Spaniards and Portuguese 829, Russian and Poles 607, Jews 125.

The religions of most of the people in these four provinces were: Roman Catholics 1,492,029, Methodists 567,091, Presbyterians 544,998, Anglicans 494,049, Baptists 239,443, Lutherans 37,935, Congregationalists 21,829, Christian Conference 15,153, Protestants 10,146, Quakers 7,345, Adventists 6,179, Universalists 4,870, Evangelical Association 4,701, Brethren 4,534, Unitarians 2,275, Pagans 1,886, Jews 1,115, Irvingites 1,112, Swedenborgians 854, Mormons 534, Bible Believers 225, Greek Catholics 18, Mohammedans 13.

The number of males in the four provinces was 1,764,311 and females 1,721,450. The unmarried males numbered 1,099,216 and the unmarried females 2,283,003, children included. The number of families was 622,719 and the inhabited dwellings 572,713. There were 25,783 uninhabited homes.

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No. 185. Mon. April 3, 1939 -- Madame Albani

The coming of the King and Queen to Canada next month has created tremendous interest and a wave of loyalty has spread across Canada from coast to coast. The visit is drawing us closer together as a people and undoubtedly is strengthening, or perhaps it is better to say bringing home to us the reality of the bonds that bind us together within the mighty British Empire.

So perhaps it may be appropriate during the next few weeks to relate a fact each day which will show something of the contribution Canada has made to the Empire and indeed to the world beyond our borders.

Now on April 3, 1930, there died in London, England, an old lady whose contribution to the race was superb. She was Madame Albani, the celebrated Canadian singer. She brought pleasure to many hearts with her wonderful, tuneful voice and she stirred, as few people have been able to stir, all that is best in the human soul with her music.

Marie Louise Emma Cecile Lajeunesse, her girlhood name, was born at Chambly, Quebec, on September 27, 1847, the daughter of Joseph Lajeunesse and his wife, Melina Mignault. She was educated at an English school at Plattsburg, N. Y., and at the Convent of the Sacred Heart, Sault au Recollet, Montreal, but her first musical training came from her father who was himself a skilful musician. At the age of seven little Mlle. Lajeunesse made her first appearance in public at the Mechanics' Hall, Montreal, under the auspices of several leading citizens.

At fifteen she went to Saratoga Springs, N. Y., where she was offered the position of church organist, becoming also a teacher of piano and singing in the Sacred Heart Convent at Kellwood. After three years there she went to Paris and then to Milan. Several years of hard, steady work followed and in 1870 she made her debut at Messina under the name of Albani.

When her fame was established in Italy, she appeared in London in 1872 at the age of 25. Since then she was a great favorite in England. She was enthusiastically received in the leading capitals of the world and her tours of Canada and the



United States were a triumph. As an example of her power she learned the music of Othello in a fortnight. Queen Victoria presented her with a model in pure gold of the figure of Victory and bearing the name "Victoria" in precious stones. She sang both in opera and oratorio.

In 1878 she married Ernest Gye, the impresario, and she had one son. Her husband died in 1925 and in the same year she was created a Dame of the British Empire by King George V. She died at the age of 83, one of the most beloved women that Canada has given the Empire and the world. Everyone should read that fine tribute paid to her by a fellow Canadian, William Henry Drummond, in his poem "When Albani Sings."

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No. 186. Tues. April 4, 1939 -- Imperial Conferences

The first Colonial Conference was held at London on April 4, 1887. There had been a suggestion of one in 1870 but it was not considered necessary. Sir Alexander Campbell and Sir Sandford Fleming represented Canada at the 1887 Conference and they brought forward the proposal for a Pacific Cable. Their plan materialized in 1902.

There was another Conference at Ottawa in 1894 with Lord Jersey presiding, but the real Imperial Conferences did not come until 1897 on the occasion of the Diamond Jubilee of Queen Victoria. The Canadian representation was led by Sir Wilfrid Laurier and there gathered from all corners of the earth an imposing galaxy of talent and enterprise. The bases of our existing Dominion autonomy and structure were laid at that Conference.

In all there have been ten Imperial Conferences. At first the chief subjects discussed, and in which Sir Wilfrid Laurier played a prominent part, related to defence and commercial reciprocity, but the World War brought constitutional issues into the foreground, in which connection Sir Robert Borden laid the groundwork of Canada's position.

The Conference of 1926, when Canada was represented by the Rt. Hon. W. L. Mackenzie King and the Rt. Hon. Ernest Lapointe, adopted a report on constitutional structure which contained the famous paragraph setting out equality of status. This paragraph is said to have been drafted by Lord Balfour. It read:

"They are autonomous communities within the British Empire, equal in status, in no way subordinate one to another in any aspect of their domestic or external affairs, although united by a common allegiance to the Crown and freely associated as members of the Commonwealth of Nations."

The Conference of 1930, when the Canadian delegation was led by the Rt. Hon. R. B. Bennett, confirmed the constitutional conclusions which had been laid at the subsidiary meeting in 1929 and this led to the Statute of Westminster of 1932.

The question of preferential tariffs was relegated to a meeting of the Economic Committee held in Ottawa in 1932. This was one of the most colourful gatherings ever held in the Dominion. Attended by representatives of the huge British Empire everywhere, there were observers also present from most of the leading countries of the world. It resulted in the establishment of the British Empire Trade Agreements.

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No. 187. Wed. April 5, 1939 -- "The Maple Leaf Forever"

April the fifth is the anniversary of the birth of Alexander Muir who achieved immortality by writing the Canadian national hymn "The Maple Leaf Forever". He wrote other poems and songs but it was the Maple Leaf that brought him fame.

He was born at Lesmahagow, Lanarkshire, Scotland, in 1830. He was only three years of age when his father, John Muir, brought his family to Canada. Alexander Muir graduated from Queen's University in 1851. At that time Queen's was associated with the Canadian Presbyterian Church and the students were generally referred to as the Presbyterians.

Mr. Muir entered the teaching profession and taught chiefly in Toronto, where he was very highly regarded. He devoted his life to training children in the public schools and exercised a great influence for good which is felt to this day. He had the fine faculty of teaching to his scholars the effect of passing events, their importance and their relation to history.

Thus it was that in 1867 he was carried to the heights by the success of the Fathers of Confederation in building the provinces into the Dominion of Canada. He was not only a poet but he was a good musician also, and he composed the music as well as the words of "The Maple Leaf Forever". It stands as the best contribution to our Canadian literature as celebrating the birth and hopes of the union of the provinces.

Mr. Muir died at Toronto on January 20, 1906 in his 76th year and there was a remarkable tribute of affection and respect at his funeral. In 1931 the centenary of his birth was remembered in the Toronto schools and there were many references to him throughout the Dominion.

"In days of yore from Britain's shore  
Wolfe, the dauntless hero came  
And planted firm Britannia's flag  
On Canada's fair domain;  
Here may it wave, our boast, our pride,  
And joined in love together  
With lily, thistle, shamrock, rose,  
The maple leaf forever.

"The maple leaf, our emblem dear,  
The maple leaf forever;  
God save our King and Heaven bless  
The maple leaf forever."

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No. 188. Thurs. April 6, 1939 -- The Habitants

Are there any more lovable people in all the world than the Habitants of Old Quebec -- a happy, contented, law-abiding, domesticated people, with characteristics all their own, cherishing their family traditions, speaking their own ancient language, neighbourly and God-fearing? Surely there is not.

It is to be regretted that years ago there was less understanding of these home-loving folk by others in Canada, but happily the misunderstandings have been passing swiftly in these later years, and the rest of Canada is appreciating more and more the virtues of the Habitants and perhaps learning from them something of



the high ideals of family life and camaraderie.

No single individual in unofficial life did more to bring about that better understanding than did Dr. William Henry Drummond, who composed charming verses couched in an approximation to the dialect of the French-Canadian Habitant speaking English. Read them, listen to them, if you haven't already done so, and if there is not a warmth of heart welling up in you, then there is something wrong in your make-up. Read "Johnnie Courteau".

Dr. Drummond, who was born at Currawn House, in Leitrim, Ireland, the son of George Drummond of the Royal Irish Constabulary, was of Scottish descent and this is mentioned in order to bring out a point that is often overlooked in studying the trend of our Canadian history. Between the Scots and the French there existed a friendship and an alliance for many hundreds of years. In Europe it was the oldest and the most unswerving alliance amongst the nations. Consequently there was considerable intermingling of blood, but more than all there was a great common understanding and mutual affection. Together they have done much in Canada.

So the liking for the Habitant was in Dr. Drummond's blood, and he has left us writings of rare beauty that have endeared him to the people of this realm and far beyond its borders. They have destroyed the stupid prejudices and revolutionized the false thinking of many of our people. The work will continue.

Dr. Drummond came to Canada with his family when he was ten years of age; he was educated at Montreal High School and Bishop's College. He practised the profession of medicine at Montreal for a time, but it is as a man of Cobalt that we remember best his location. He lived in a cottage on a rocky eminence looking down upon the town. He died there on April 6, 1907.

Unfortunately his home was demolished a few years ago and only the stone fireplace and chimney remained. The Canadian Authors' Association has placed a plaque on that fireplace.

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No. 189. Fri. April 7, 1939 -- Hon. Thomas D'Arcy McGee

The assassination of the Hon. Thomas D'Arcy McGee in the early hours of the morning of April 7, 1868, lost to Canada a remarkable man, who had done a great work for Canada and the British Empire.

D'Arcy McGee was born at Carlingford, in the County of Louth, Ireland, on April 13, 1825, the son of James McGee, a coastguardsman, and Dorcas Catherine Morgan. He was educated in Wexford and at the age of 17 emigrated to America. He joined the staff of the Boston Pilot, a weekly paper for Irish-Americans, and became its editor. In 1845 he returned to Ireland and became editor of Freeman's Journal. Its policy was too moderate for his spirit and he joined the Nation, the organ of the "Young Ireland" party.

Though not actually in arms, he was implicated in the rebellion of 1848 and was one of the famous Irish leaders on whom exile was pronounced. He escaped to America, however, in the disguise of a Roman Catholic priest. He founded various newspapers in New York, Boston and Buffalo and moved to Montreal in 1857 on the invitation of some leading Irish-Canadians, founding the New Era. Next year he was elected as an Irish Roman Catholic by Montreal West to the Legislative Assembly of Canada. He represented that constituency until 1867 when he was elected to the first House of Commons of the new Dominion.

At first he was associated with the Reformers, and was president of the council and later provincial secretary in the Macdonald-Sicotte administration. In 1863 he joined the Conservatives and became Minister of Agriculture in the second Tache-Macdonald government of 1864.

It was at the formation of the Confederation cabinet that he showed the greatness of his power of self-abnegation. Along with Charles Tupper he stood aside so that the claims of the Irish Roman Catholics and the people of Nova Scotia might be combined in the appointment to office of Edward Kenny.

But his claim to the title of having been the chief apostle of Canadian national unity was secure. He was one of the most brilliant orators who have ever graced Canadian public life. From the moment of his arrival in Canada he had preached the doctrine of "the new nationality" and the force of his eloquence was overpowering. From an Irish revolutionary he had become one of our greatest of Empire builders and a most loyal subject of the Crown. Indeed, he had been changing his youthful ideas while residing in the United States.

In 1866 he condemned vehemently the Irish-American Fenians who had invaded Canada and incurred the implacable enmity of that organization. As a result he was shot to death in Ottawa by a Fenian named Whelan while he was returning from a late session of the House of Commons.

A great scholar, a great spokesman, a great Irishman, a great Canadian and a great Empire builder was this man of only 43 who also became a great Canadian martyr.

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No. 190. Sat. April 8, 1939 -- The Colonizing Earl

A great and well beloved name in both Canadian and Scottish history is Douglas. Thomas Douglas, the fifth Earl of Selkirk, will ever be remembered in this country with affection and esteem. His is a romantic story, the end of which was sadness. He died at Pau in the south of France on April 8, 1920.

He was born at St. Mary's Isle, Kirkcudbright, Scotland, on June 20, 1771, the seventh and youngest son of Dunbar Douglas, the fourth Earl of Selkirk. He was educated at Edinburgh University and there he was a member of a club for the discussion of social and political questions, of which Sir Walter Scott was also a member.

On the death of his father in 1799, all of his brothers having died previously, he succeeded to the Scottish Earldom of Selkirk and so great was the benevolence of his spirit that he began immediately to make plans for alleviating the distress of the economic revolution then in progress in the Highlands of Scotland. He proposed emigration of the evicted crofters to British North America.

In 1803 he planted his first colony of 800 Highlanders in Prince Edward Island. His next venture was a colony at Baldoon, near Lake St. Clair in Upper Canada. His chief project, however, was the settlement of the Red River Valley. With that object in view he acquired financial control of the Hudson's Bay Company and in 1811 obtained from that Company the cession of 45 million acres. That year he sent out a party of settlers by way of Hudson Bay and next year another party. These established themselves near the site of Winnipeg -- the first body of colonists in the North-west.

The Earl of Selkirk was actuated by sheer philanthropy, and he failed to reckon with the certain hostility of the North West Company, which had inherited the French fur trade in the west. They disputed the right of the Hudson's Bay Company to dispose



of the territory and resolved to break up the Selkirk settlement. Twice they drove the settlers from their homes and on June 19, 1816, a battle took place at Seven Oaks, between the Nor'Westers and the Selkirk Settlers, under Robert Semple. Semple and twenty of his men were killed.

This occurred while Selkirk, with a force of disbanded Scottish soldiers, was on his way from the Red River to Canada. He seized the North-West Company's headquarters at Fort William, arrested a number of the officers of the Company and sent them to Canada for trial. In the spring he pushed on to the Red River, reinstated his colonists and restored order.

The subsequent trials in the courts in 1818 resulted in the defeat of Selkirk, who was ordered to pay heavy damages. He returned to Scotland broken in health and spirits. He was probably the most outstanding philanthropist this country has had.

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No. 191. Sun. April 9, 1939 -- Canadians at Vimy

It was on Sunday, April 9, 1917, that Vimy Ridge was captured by the Canadian Corps in the Great War. These Canadians won undying fame for their country and their praises will be sung so long as history endures.

There were 97,000 Canadians in that great battle. It was a magnificent army. It was 30,000 more than Wellington had at Waterloo; it was more than three times the army of Robert the Bruce at Bannockburn, almost as many as the French had at Jena, and considerably more than the 75,000 the Federals and Confederates each had at Gettysburg.

There were about 620,000 men and women of all ranks in the Canadian Army during the Great War, and 425,000 actually participated in the battles. One of the remarkable things about the Canadians was the high proportion of the native-born. Considerably more than half of the 620,000 were born in Canada. That was remarkable because for a number of years prior to the Great War the young man population of the Dominion had been receiving heavy additions, especially from Great Britain and Empire countries. There were Canadians in that Army who came originally from every corner of the earth, including Germany, Hungary, Austria, Japan and China.

Two of the very remarkable things that happened when war was declared was the rush of reservists for their homeland. Approximately 5,000 French reservists threw down their tools and their pens and clambered aboard the first ship that would take them. There were 2,779 British reservists and some from Belgium. It was difficult to make a record of them, so spontaneous was the rush.

The other was the Canadian Armada, organized by Sir Sam Hughes, that sailed down the St. Lawrence with 33,000 fighting men on board the ships and escorted by British warships across the Atlantic. In every department of war, on the field, on the water and in the air, Canadian lads distinguished themselves.

A great memorial has been erected on Vimy Ridge to commemorate Canadian chivalry. That ridge has been given to Canada by the French people, and year after year it is visited by Canadians. The memorial was unveiled by King Edward VIII on June 26, 1936, in the presence of a great band of Canadian pilgrims. The Vimy Pilgrimage was the largest crossing of the Atlantic by civilians not on the way to war.

The glory of the young Canadians at Vimy Ridge and elsewhere during the Great War will never fade.

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No. 192. Mon. April 10, 1939 -- Canadians in South Africa

On April 10, 1900, the famous Strathcona Horse arrived in South Africa to take part alongside the British troops in the Boer War. This regiment was raised and equipped in Canada at the expense of Lord Strathcona. At first they were called "Rough Riders" and numbered 500.

Volunteers had been raised in Canada for the Crimean War. They were called the 100th Canadian Regiment and in 1884 a force of Canadian Voyageurs had been raised for service in the Soudan, principally for the voyage up the Nile for the relief of Gordon in Khartoum, but not before the South African War had the Canadian Government taken official action.

The Government authorized the despatch of a contingent of 1,000 men of the Canadian Militia, recruited from Halifax to Vancouver, and they sailed from Quebec on October 30, 1899. As soon as they reached South Africa they were taken over by the British War Office and ceased to be a charge on the Canadian Exchequer.

A second contingent, composed of mounted rifle and artillery units, about 1,320 in number, was sent and next year, as stated above, the Strathcona Horse was added.

The sending of troops to South Africa was regarded at the time as simply a demonstration of the solidarity of the British Empire. It is worth noting that since that time there have been no stronger British imperialists throughout the world than the defeated Dutch Boers, and they have given the Empire during the present century some of its foremost leaders and statesmen.

The participation of Canada in the South African War may be said to have really ended the colonialism of the Dominion, for the Canadian Government undertook to garrison Halifax, thus relieving the British troops there for service in South Africa. Eventually the British garrisons of Halifax and Esquimaux were substituted by Canadians.

The Canadian contingents, small as they were, gave a good account of themselves. The first contingent suffered severely in the first attack on General Cronje's position at Paardeberg, but in the subsequent attack brought about the surrender of the Boer general. A battery from the second contingent took part in the relief of Mafeking, and in the later stages of the war the Mounted Rifles performed useful services, as did the Strathcona Horse.

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No. 193. Tues. April 11, 1939 -- Not All Plain Sailing

It is not altogether pleasant to recall the atrocities, the evil things, the wrongs and the sufferings that have been undergone by the makers of a new country like Canada. We cherish the memory of the pioneers, and there is a response in our hearts to the distresses they experienced in the building of their homes, and we accept them as inevitable incidents in the forward march. But there have been other wrongs that should never have been endured because they were the result simply of the greed and rapacity of others. The Earl of Selkirk's bitter experiences were referred to a few days ago.

There is another pioneer, another distinguished man, who suffered even worse than he. John Galt, he was. His name will ever be associated with Guelph, that Ontario centre of education and enlightenment, a place that has given much to Canada. He was an artist in literature, the writer of sixty books, and it was only the overshadowing influence of his contemporary, Sir Walter Scott, that made him less well known than he should be.



John Galt was born at Irvine, Ayrshire, Scotland, in 1779. He was of mature years when he came to Canada from London as one of five commissioners. He fell in love with the country. He came a second time in 1827 as practically the sole representative of the Canada Land Company which was formed as the result entirely of his foresight and enterprise. He was empowered to clear and settle lands, make roads and bridges and found towns. The site he chose was what is now Guelph. He founded that flourishing town.

His expedition to Canada, however, was disastrous to himself. He was too good for the men he had to deal with. They proved themselves to be of the morals that Ireland used to associate with the absentee landlord. He returned to England a hopelessly impoverished man, and he was thrown into prison for a debt of \$350 which had accrued, in his absence, for the education of his three boys. At the same time the Company pocketed \$150,000 as the result of his far-sighted policy for the Company in Canada. The horrible conduct of the men he was serving deprived him of the fruits of his foresight and enterprise, and the treatment accorded to him laid the foundations of antagonism and prejudice which lasted for many years. He died on April 11, 1839, just one hundred years ago today.

It is worth while, in these days of the sensational novel and magazine, to spend a quiet evening reading one of John Galt's books, such as "The Last of the Lairds", or "Annals of the Parish", "The Provost", "The Entail", or his autobiography. He was that rare combination of the man of action and the literary man. He was a lover of nature and rejoiced in flowers.

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No. 194. Wed. April 12, 1939 -- When Quebec Set a Standard

The Province of Quebec has done some very notable things in its spectacular history and we may today dwell for a moment upon one, for it was on April 13, 1832 that it occurred and created almost world-wide interest. A bill giving Jews full political equality and civil rights in Lower Canada became law, the French-speaking province being thus the first section of the British Empire to show liberality to the Hebrew minority. In these modern days when the Jew is being baited and persecuted, plundered and beaten to the ground in some countries as a consequence of national policy, Quebec stands out as a monument to the fairness of the French-Canadians 109 years ago, which fairness, and even benevolence, has stood out conspicuously in many instances during the century that has passed.

The noteworthiness of that incident is emphasized when one reflects upon what happened prior to the passing of the famous enabling legislation. The constituency of Three Rivers in 1807 sent Ezekiel Hart to represent it in the Legislative Assembly, but, being a Jew, he was declared ineligible to sit. To the eternal credit of the people of Three Rivers they re-elected him in 1808, but he was again refused his seat. Three Rivers refused to accept the dictum, and nominated him again in 1809. Hart, however, withdrew his name at the last moment, although he had support of Sir James Craig, the governor-in-chief of the colony.

There is more than that in the story in its exemplification of the fine spirit shown by the French-Canadians, for Ezekiel Hart was the son of a man who had been in the army of James Wolfe when he captured Quebec and merged the lily and the rose. Hart was a German Jew. In a military sense he had been an enemy. In Three Rivers he won for himself confidence and affection as a merchant to an unusual extent; he had qualities of head and heart that endeared him to practically the whole community. Hence that remarkable and sustained effort of the people of Three Rivers to elect him to their legislature. He died in 1843.

There have been some notable Jewish figures in Canadian public life since that time. Mention may be made of one who died recently, Samuel W. Jacobs. He was a member of parliament for a Montreal constituency from 1917 until his death this year, and had a distinguished career both at the bar and in the House of Commons. At the last Census there were about 165,000 Jews in Canada.

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No. 195. Thurs. April 13, 1939 -- A Brave Acadian Lady

Thrilling are the stories of the pioneer women of Canada, their bravery, endurance and loyalty. None surpasses in heroism that of Madame La Tour, an Acadian lady.

Her husband, Charles de Saint-Etienne de La Tour, was the son of Claude de La Tour, a Huguenot nobleman whom poverty had forced to seek his fortune in the new world. Young La Tour had come to Acadia with his father when he was but fourteen. After the destruction of the French establishments in 1613, he followed Biencourt into the forests and lived the life of an Indian. When Biencourt returned to France in 1621 he left La Tour all his property and rights, thus making him virtually ruler of Acadia.

In 1628, after his father's alliance with the English, he was made a Baronet of Nova Scotia, but refused to transfer his allegiance and was rewarded by Louis XIII with the lieutenant-governorship of a great part of Acadia. Eight years later Charnisay became governor and a bitter feud began between the two, each claiming to represent the King of France.

In 1645, Charnisay, taking advantage of his enemy's absence, attacked Fort St. John, La Tour's headquarters, now St. John, N. B. Madame La Tour made a heroic resistance, which has become one of the epics of Canadian history. Charnisay, however, captured the stronghold, but only succeeded because of treachery, and the revenge he took is a black chapter. He slaughtered the defenders, but sparing the lady. Three months afterwards the brave woman died of a broken heart. Her maiden name was Francoise Marie Jacquelines, daughter of a barber of Le Mans.

La Tour left the country and took refuge in Canada. Charnisay died in 1650 and La Tour succeeded him as governor of Acadia. In 1654 when the country fell into the hands of the English he retained his post and received a grant of land from Cromwell.

Tradition says that Madame Charnisay disapproved of her husband's actions at Fort St. John. Whether that is so or not, she married La Tour three years after the death of her husband.

The young lady who left the home of a French barber to become the wife of an Acadian leader, has become one of the romantic figures of Canadian history. It sounds like fiction.

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No. 196. Fri. April 14, 1939 -- Building Ships

On April 14, 1814, there occurred at Kingston an event which seems to us today to have been very remarkable, but which was not much more than an example of the industry of those resourceful forbears of ours. Two ships of war -- sloops, they were called -- were launched for service on Lake Ontario. The Prince Regent carried 58 guns and the Queen Charlotte 42. They were the largest vessels afloat on these waters and they played a part in the capture of Oswego.



The building of these ships is merely an illustration of what was going on all over Eastern Canada. Vessels were slid into the water from every place of any importance. Until 1845 Lake Superior was little known except to some missionaries, fur traders and adventurers. As far as trading went, the other four Great Lakes were much farther ahead. The first seven steamers on Lake Superior were hauled out of the water below the Soo rapids and transported across the portage on ways and rollers in a manner similar to the way buildings are moved today.

But it was down by the sea that great wooden ships took the water and it was the carrying of tea from India and the Orient that gave shipbuilding its most romantic years of sea-faring. True, the fishing vessels had no superior anywhere, but when Great Britain threw her markets open to the world and the "Yankee Clippers", with a hundred magnificent ships such as the Lightning and the Flying Cloud, threw British shipping circles into consternation, something had to be done.

Donald Mackay, who had built the greatest of the "Yankee Clippers", was a Nova Scotian and the eyes of the British turned to the Canadian Atlantic coast. An urgent demand came for more and faster ships. Canada responded magnificently and from Quebec to Saint John there was a shipping boom in the fifties that forever linked Canada's name and fame with the sea and all its doings.

Great vessels like the Marco Polo and the Star of the East were launched and were manned by sturdy, bearded Canadians. They sailed into every port of the world and earned respect. They knew their business. They made speed that was amazing.

The great days of the wooden ships have passed beyond recall. Boatbuilding with wood is confined more or less to fishing vessels and the comparatively small boats, small but of first class quality. The famous Bluenose, the queen of the Atlantic fishing fleets, is a fine example of a Canadian art which is the heritage of these days.

So Canada's contribution to the Empire in the way of great ships when great ships were urgently needed, and wooden walls still were mighty, is one of the stirring romances of our Anglo-Franco-Saxon-Celtic civilization.

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No. 197. Sat. April 15, 1939 -- The Frobishers

The name Frobisher is prominent in Canadian geography and history. Frobisher Bay is one of our early place names, and it was the scene of one of the early attempts at colonization. Sir Martin Frobisher, one of England's greatest sailors of all time, looking for a way to Cathay and India in 1576, landed at Butcher's Island. Some of the natives decoyed away five of his men and his efforts to get them back were in vain.

Next year he headed another expedition and he took possession of Frobisher Bay in the name of Queen Elizabeth. England's queen was a firm believer in the value of the new territory, and Frobisher made a third voyage in 1578 for the purpose of founding a colony, but the venture was not a success. He took metal ores home with him.

It is rather with Joseph Frobisher, though he was not a world figure like Sir Martin, that Canadians are mainly concerned. He was a Yorkshireman, like all the others of the name, and was born on April 15, 1740. He was in the west in his twenties, reached the Saskatchewan in 1773 and spent a winter near the site of what afterwards became Fort Cumberland. He wintered in 1774-75 on the Athabaska River in the hope of cutting off the fur trade from Fort Churchill, and almost died of starvation.

He was an original member of the North West Company in 1779 and became one of its legendary figures. Some years later he joined forces with Simon MacTavish and they were for a long time virtually the directorate of the North West Company. He was a member of the Quebec Legislative Assembly. When he was 59 he married a French Canadian, Charlotte Joubert. He died in Montreal in 1810, at the age of 70.

Joseph Frobisher had a son Benjamin, who was also a member of the Quebec Legislature. During the Selkirk troubles he was captured by the Hudson's Bay men and taken to York Factory. He died from exhaustion at Cedar Lake while attempting to escape.

Joseph Frobisher had two brothers, Benjamin and Thomas, both of them also in the fur trade. Benjamin looked after the Montreal end of the business, while Thomas was an excellent man in the bush. He founded the first post at Isle à la Crosse.

The Frobishers as a family contributed much to the progress of Canada in the 18th century.

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No. 198. Sun. April 16, 1939 -- Ottawa the Capital

How Ottawa came to be the Capital of the Dominion of Canada, a royal city in appearance, is a very simple story which is based upon local prejudices. There were in the days before Confederation the two divisions of Upper and Lower Canada forming the Province of Canada. The two leading towns in Upper Canada were Kingston and Toronto, while in Lower Canada Quebec and Montreal were the outstanding centres. All the four had aspirations to house parliament permanently. Each had had a turn.

On April 16, 1856, the Parliament of the Province of Canada, wearying of the difficulties of transferring the seat of government from Toronto to Quebec and vice versa, voted, on the motion of John Sandfield Macdonald, that after 1859 Quebec should be the permanent capital of Canada and that \$200,000 should be appropriated for the construction of a parliament building.

Although the motion was adopted the resolution was never carried into effect. Sectional jealousies were too strong. Accordingly, to settle all difficulties, Queen Victoria's choice of Ottawa was accepted. Thus the Canadian capital was a compromise, and the Prince of Wales, later King Edward VII, laid the corner stone of the Parliament Building there in 1860. It was a beautiful Gothic structure which was destroyed by fire in 1916 during the Great War. Another more commodious and even more beautiful building was begun immediately afterwards and the corner stone was laid by the Duke of Connaught, a brother of King Edward VII. The Duke, who was at that time governor-general of Canada, is now in his eighties.

The site chosen for the Capital is one of rare beauty. It is at the confluence of the Rideau and Gatineau with the mighty Ottawa after it tumbles over the Chaudiere Falls. It owed its establishment as a town to the building of the Rideau Canal and the flourish of the lumbering business. Its original name was Bytown.

The housing of the Commons and the Senate on Parliament Hill was interrupted, of course, after the fire of 1916. The legislators were accommodated in the National Museum, which was transformed into temporary quarters for them. The new buildings which grace Parliament Hill are said to be fireproof.

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No. 199. Mon. April 17, 1939 -- Kateri Tekakawitha

There died at Caughnawaga on April 17, 1680, a remarkable Iroquois maiden, Kateri, or Catherine, Tekakawitha. She was only in her 24th year, but in her short life she left an indelible impress, comparable with that of the young French girl, Marie Françoise Thérèse Martin, who was canonized as Ste. Thérèse de l'Enfant Jesus and is widely known as "The Little Flower".

The Congregation of Rites at the Vatican has before it pleas for the beatification of Catherine Tekakawitha -- shortly before Pope Pius XI died he was presented with numerous petitions from American Indians asking that the girl be declared worthy of veneration and expressing hope she might eventually be proclaimed a saint.

Catherine Tekakawitha was born in the year 1656 in the Mohawk village of Gandaougué on the St. Lawrence, the daughter of an Iroquois father and an Algonkian mother, who had accepted Christianity.

In the 1660's, following five years of strife between the French and the Five Nations of the Iroquois, the Indians sued for peace, the Mohawks being the last to give in. In 1668 the Jesuit Fathers established five missions among the tribes of the Five Nations, and amongst their early converts was Catherine Tekakawitha, who was baptized at the age of 19. She was soon to become known up and down the St. Lawrence as the Iroquois Saint and the "Lily of the Mohawks".

Two years later she left her own country and made her abode at the Iroquois mission of St. Francois Xavier du Sault. There she took the vows of a religious and toiled so hard in ministrations to the sick in body and soul who crossed her path, from the humblest in the land to the highest, from Indian brave to European governor, that her strength was undermined. Stricken by illness early in 1680, she could not resist, and death ended her life of self-sacrifice.

Her virtues and sanctity were regarded as so unusual that her grave became a place of pilgrimage where miracles have ever since been recorded. Her remains were removed by the Jesuit Fathers one dead of night, shortly after their burial in the little cemetery at St. Francois Xavier du Sault, to a resting place in their church, but for long afterwards devout Indians who prayed at the old burial place were said to have gone away healed in body and mind.

The church near the Caughnawaga Reserve became a shrine to the Indian maiden. There are many references to her life and influence in the Jesuit Relations, those painstaking records kept by the Jesuit Fathers of their endeavours to Christianize the Indians.

There is a painting of Catherine Tekakawitha executed by Rev. Father Chauchetiere in 1681; he was the confessor of the Indian maiden. From this and other paintings, the early sculptors have carved graceful statues of her. Her biography is one of the treasures of the Hotel Dieu, Quebec. Her name is variously spelt Tekawita, Tegawita, Tekakouita and Tegahkouita, but the spelling used above seems to have been accepted by most authorities.

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No. 200. Tues. April 18, 1939 -- Aix-la-Chapelle

The treaty of Aix-la-Chapelle of April 18, 1748, led to unanticipated events of dire consequences to England and her North American possessions, as we shall see. It brought to an end the War of the Austrian Succession. Among its most important

provisions, and the one which interests us most in this Dominion was that Acadia and Cape Breton, with the fortress of Louisbourg, were restored to France.

The makers of the treaty were France, Great Britain, Spain, Austria, Holland, Sardinia and Modena. They gave Maria Theresa possession of the Throne of Austria. All the great powers of Europe had been involved in the war, and all of the states were permitted to retain possession of their territory as it was before the outbreak of hostilities.

Another important agreement was the renewal of an article of the treaty of 1718 which recognized the Protestant succession to the English Throne. The Republic of Genoa was restored to its former position.

It was because of the general agreement to return to France her former territories, that Cape Breton had to be ceded. The decision was very unfavourably received by the New England colonists whose forces had carried out the successful adventure in the north three years before. It had been a costly expedition. The resentment sowed seeds of discontent and helped largely to pave the way for the American Revolution.

Cape Breton has had a glamorous history. It has been said that John Cabot, in his voyage of 1497, discovered Cape Breton Island, but that is now regarded as doubtful. Soon after that, however, it became a centre for the fishing fleets of Europe, notably the Basque fishermen from Brittany. Jacques Cartier in 1534 described it as "La Terre des Bretons" which, no doubt, explains the origin of the name. In 1629 Lord Ochiltree established a Scottish colony there, but this was captured by the French in the following year and the island remained part of the French dominions until 1745. By then it was named Isle Royale in 1713. Taken by the New Englanders in 1745, it was renamed Cape Breton. In 1748, as stated above, it reverted to France but was again captured by the British in 1758, which capture was confirmed by the Treaty of Paris in 1763. It was annexed to Nova Scotia two years later. In 1784 it received an immigration of 3,000 Loyalists and became a separate province.

There was an immigration of Scottish Highlanders in 1791 and next year it was re-annexed to Nova Scotia. The population at the census of 1931 was 132,581.

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#### No. 201. Wed. April 19, 1939 -- The Hundred Associates

The Company of New France, generally referred to as The Hundred Associates, is one of the outstanding events in our history. It was created by the great Cardinal Richelieu, the charter signed by him on April 19, 1627 and established by the edict of Louis XIII. It included such other names, well known to us, as Champlain and Razilly.

The Associates agreed to transport to Canada 4,000 colonists before 1653, these to be supported during their first three years in the colony. Only native French Catholics were to be sent out.

In return the Company was granted in perpetuity the whole territory of New France from Florida to the Arctic Ocean and from Newfoundland to Lake Huron and beyond. It was free to distribute lands and was granted forever the monopoly of the fur trade, as well as all other trade for fifteen years. However, cod and whale fishing was to be open to all French subjects. All merchandise to and from France



was to be free of duty for fifteen years, and Indians professing the Roman Catholic faith were to be regarded as French citizens.

Next year a start was made on this mammoth scheme. The Company fitted four ships with colonists, provisions and cattle, but they were captured by the Kirke brothers. A second expedition resulted in one ship being wrecked and another taken, although the third, under Captain Daniel, succeeded in storming the British post at Cape Breton. However, Kirke captured Quebec and Canada passed under the British flag. In 1630 the Company sent to Acadia, then partly in British hands, an expedition to strengthen the posts at Cape Sable and St. John. This was costly and by 1631 the Hundred Associates were ruined.

Retaining their land ownership and administration of the Country, they ceded their monopoly and obligations to a subsidiary Company. Under this arrangement, Champlain returned to Quebec in 1633 with the first Company's colonists, 200 in number. Seigniorial rights were established.

Debts and losses multiplied, and the fur trade was transferred to a Canadian company, the Compagnie des Habitants. Through their land policy, greatly helped by the foundation of Montreal and the religious communities and the more wealthy seigniors, the country received a little additional population. The country was on the up-grade when the Iroquois war broke upon it, wiping out the fur-providing Hurons, disrupting trade and threatening the infant colony with destruction.

Things went from bad to worse and in 1663, when the Company went out of existence, the population of Canada was only about 2,500, who were centred along the St. Lawrence near Quebec, Three Rivers and Montreal.

The magnificent dream and one of the most glamorous enterprises of civilization was never completed.

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No. 202. Thurs. April 20, 1939 -- Iroquois Chiefs Visit Queen Anne

In 1710 five chiefs of the Iroquois visited England and on April 20 they met Queen Anne. The event excited much attention in England. Their handsome portraits, in full Indian regalia, were taken and are still preserved in the British Museum. One newspaper of the period says: "They were placed in a handsome apartment, at an upholsterer's in King Street, Covent Garden." The Iroquois are the ancient Indian friends of the English.

Here is an excerpt from the records of the historic visit in "The Annals of Queen Anne's Reign", which contains errors for which a newspaper reporter of today would not be forgiven by his editor:

"On the 19th April .... four kings or chiefs, of the Six Nations, in the West Indies, which lie between New England and New France, or Canada, who lately came over with the West India Fleet and were clothed and entertained at the Queen's expense, had a public audience of Her Majesty, at the palace of St. James, being conducted in two of Her Majesty's coaches ....."

Apparently the historian thought there were but four chiefs, though there were actually five. They remained in London two weeks and were entertained by several persons of distinction, their entertainment including a review of the four troops of Life Guards.

In Smith's history of New York we are told that "the arrival of these five sachems in England made a great bruit throughout the whole kingdom. The mob followed wherever they went, and small cuts of them were sold among the people."

There is a living connection between that visit and today. Queen Anne presented the Iroquois with a handsome Bible and a Communion Set, which are still preserved. During the Revolutionary War, when the Iroquois supported the British, the Communion Set was buried secretly in the Mohawk Valley. When Joseph Brant, chief of the Six Nations, had his church near Brantford organized, he had it placed there, and it has been used regularly since then. The Bible at the Mohawk church has been signed by nearly all of the representatives of the Sovereign since that time, and among the last royal persons to do so were the Duke of Connaught and King Edward VIII when he was Prince of Wales.

Incidentally it was Joseph Brant, the famous Thayendanegea, who translated the Anglican Prayer Book into the Indian tongue. Thayendanegea was also a visitor to England and is one of the outstanding personalities in Canadian history.

The Indian population of Canada at the 1931 Census was 118,000, and it is estimated to be increasing annually at the rate of one per cent.

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No. 203. Fri. April 21, 1939 -- Roads

It was on this day of April, 1804, that the first Roads Commission for Upper Canada was appointed. The building of roads was begun on a large scale and toll-gates were set up to provide the money, a system which continued for practically a century. Indeed, in the vicinity of Ottawa, on the Quebec side of the river, the tollgate was in operation while the present century was winging its way onward. Tolls are still collected for the crossing of some bridges.

Roads are an important part of our system of communication and were the first great influence in the bringing together of peoples and the levelling of prejudices. Vessels came next as men travelled farther afield, then railways, telegraphs, telephones, radios and now the airship.

The first real roads were in the nature of a military policy. The pioneer soldier had to have communications that would be speedy and reliable. The Romans could never have held England so long as they did without the roads they built and which still exist. The pacification of the Scottish Highlanders was brought about by the building of roads after the last Rebellion. It was a military undertaking carried out by soldiers.

The most outstanding example of road policy carried out in the early days was the great highway which was built by the military from end to end of Ontario. It became known as the Governor's Road in honour of Governor Simcoe. It stimulated settlement and trade and did a remarkable social service.

The great road-building boom in Canada was the decade following 1925 when the mileage of surfaced roads, exclusive of cities, towns and incorporated villages, doubled. A spectacular part of the programme, coming close to completion, is the Trans-Canada Highway and in this connection the name of Dr. Perry E. Doolittle, of Toronto, should be remembered. He has been called the "Father of the Trans-Canada Highway."

The first roads were, of course, simply paths through the woods, along the



valleys and over the plains, which broadened out into roads, although on certain plains certain travellers, such as the Arabs, needed no roads, their splay-footed camels doing the travel quite satisfactorily over the sands. We have had roads paved with flat stones which the Roman legions laid, gravel roads, macadamized roads, streets with cobble-stones, brick, stone and wood blocks. When travel became fast, near the beginning of this century, we began to oil our streets to keep down the dust.

Now we have tarvia, cement and other things, even salt, upon the surface of our roads and we spend huge sums of money on them. No soldiers doing the job nowadays, hereabouts at any rate.

With the almost entire disappearance of horses from the main highways, we tend these roads like a kitchen floor, sweep them, wash them, mend them, and we have forgotten to be amazed.

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No. 204. Sat. April 22, 1939 -- Iron Mines at Three Rivers

Iron ore was discovered in Canada in the St. Maurice Valley, Quebec, as early as 1667, so far as the records show. Perhaps the discovery was made before that. Count Frontenac, one of the dominating figures of the French regime, mined some ore there in 1672. He personally inspected the deposits of bog iron near Three Rivers. He at once saw the importance of the find and took steps towards getting operations started on a commercial basis. Samples were sent to France, tested and found to be of workable quality.

It is tempting to say a great deal here about Frontenac, the far-seeing governor who pointed the way to success or failure in Canada as a part of the Empire of France, but space is limited. His plans were unheeded; probably they were never laid before the King. Whatever the reason, this practical and efficient man died without seeing his hopes fulfilled. The iron works which he proposed, to make stoves, horseshoes, bar iron, cannon and shot and other iron products, did not come into being until after April 22, 1713, when an order-in-council was passed authorizing La Compagnie des Forges to work the iron mines near Three Rivers without dues of any kind.

Operations were continued until 1883, and it is interesting to note that at the St. Maurice forges, cannon and balls were made in turn by the French, the British, and the American invaders of 1776.

At present the iron industry of Canada depends upon imported ores. Sydney, Nova Scotia, gets ore from the Wakana deposits in Newfoundland, while the blast furnaces at Hamilton, Port Colborne and Sault Ste. Marie in Ontario obtain their supply from the iron ranges in Michigan, Wisconsin and Minnesota. Why so is a technical reason which need not be gone into here, except to say that there are supplies of iron ore in Canada which are a little more expensive to use than these imported ores.

However, wide interest has been created in a discovery of hematite ore in the Atikokan district of Northwestern Ontario, in the Rainy Lake area. Mining engineers appear to be optimistic that they have come upon a deposit of high-grade iron ore which will solve Canadian problems in this respect. It is an immense deposit.

Before leaving the subject it is worth while to revert for a moment to the brilliant Frontenac in order to show how exactly his commercial policy was in line with modern Canadian policy. His urge was for exportation to exceed importation, to make the country as self-supporting as possible commercially, militaristically and socially.

No. 205. Sun. April 23, 1939 -- Progressive Nova Scotia

The more we read and learn about Nova Scotia, the more we come to realize that those people down by the sea have taught us many things and given us much, including two of our prime ministers. If one were to broaden out the land and take in New Brunswick, we would find that the Maritime Provinces have given us four out of our ten prime ministers, along with a great array of other distinguished cabinet ministers and leaders in all other walks of life.

However, it is not exactly with that that today's Fact is concerned. Yet it is akin, for it shows the advanced ideas of the people there from the beginning. It was Nova Scotia that first saw the light in regard to personal commercial relations and the advantage of having a man on the spot in the remarkable trade market of England.

Nova Scotia stands out as making the first appointment of an agent-general in London by any British colony. The appointment was made on April 23, 1762. The accredited representative was Joshua Mauger.

Joshua Mauger was an interesting character and must have had a way with him. He was an English trader who had been connected with the government contracts at Louisbourg, and appears to have resided in Halifax for the purposes of commerce only. In 1751 he held the uncommon title of Agent Victualler for the British Navy at Halifax. In 1754 he had shops established at Pisciquid, which we now know as Windsor, and Minas we now call Horton, as well as other places.

He must have been doing a thriving trade. There are still houses in Halifax in which, it is pointed out, he made rum which he supplied to the troops and the navy. He sold goods and spirits to the French and the Indians. He owned considerable property in and around Halifax. Indeed, he had a commanding situation. The beach at the end of the harbour, extending westerly from Cornwall, now McNab's Island, was originally granted to Mauger and still bears his name.

Apparently he got into difficulties with Governor Cornwallis regarding illicit dealing. However, he went back to England in 1761 and the following year received the appointment of agent-general in London. He held the office until 1768. He represented Bristol in the British Parliament, entertained largely and was a leader in the Jewish community in London.

The agency was continued until 1931 when, after the death of Major Howard, it was abolished. The office, beginning with Mauger, played a prominent part in promoting the trade of Nova Scotia and was the forerunner of our present efficient and enterprising corps of trade commissioners scattered throughout the business world.

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No. 206. Mon. April 24, 1939 -- Canadian Canals

It is a good exercise for Canadians to gaze at the water once in a while and to consider to what extent our great inland waterways have contributed to the development of this dominion. The reflection is tinged a little with sadness that the number of people who, with their modern facilities for transportation, are viewing the water from the land instead of seeing the scenery from the water -- as best it is to be seen. Speed we must have in these rapidly changing days, whatever the cost, be it life itself.



The thought is provoked by the memory that it was on April 24, 1834 that the Grenville Canal was completed. It was constructed by the Royal Engineers, as were many of the Canadian canals of a century ago and more. Besides being invaluable for commercial carriers they were of tremendous importance in a military sense. The Rideau Canal was a military adventure, to increase the defences of the country against any possible invaders, and invasion was in the air.

The canalizing of the Ottawa River made a waterway from Montreal to Ottawa and thence to Lake Ontario via Kingston. It was a busy route, through which many immigrants travelled on their way to Western Ontario and even beyond. Before the period of railway expansion, which commenced for Canada in the 1850's, the problem of quick transportation was to eliminate the toil of the portage. So until the St. Lawrence Canals were built, most of the trade between Upper Canada and Montreal took this circuitous route.

The earliest mention of canals in Canada is in connection with the Lachine. Its construction was first attempted by the Sulpician priests: later on the rapids there were successfully overcome. Further up the St. Lawrence, the Royal Engineers completed the locks between Cascades and Coteau Landing in 1783 in time to assist in the transportation of the United Empire Loyalists to their new homes. The Cornwall Canal was started in 1834, but the Welland Canal had been constructed in 1829, some years before that. Its purpose was to overcome the obstacle of Niagara Falls.

It is sufficient to say that a direct waterway of nearly 1,850 miles has been made possible, the actual mileage of the canals proper being 510. Vessels loaded with wheat can travel from Port Arthur at the head of Lake Superior across the Atlantic direct to Europe, although most of the carrying is done to the elevators, whence it is transhipped.

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No. 207. Tues. April 25, 1939 -- Sir John Franklin

Some great names in the course of history never pass. Sir John Franklin is one of them. The mere mention that he was at Penetanguishene on this date in 1833 evokes interest. He was on his way from York, which is better known to us as Toronto. He laid the corner stone of the Rideau Locks at Ottawa while on a visit to Bytown, and that event is another charming link with him. Franklin is entitled to be remembered as the discoverer of the north-west passage.

He was born in England in 1786 and joined the navy as a midshipman, serving at the Battle of Copenhagen in 1801. Two months later he joined the Investigator and took part in the exploration of the Australian coast. He fought under Nelson at Trafalgar. In 1818 he commanded the Trent in Buchan's Arctic Expedition. In 1819 he was appointed to command an overland expedition from Hudson Bay to explore the Arctic coast of North America from the Coppermine River eastward, wintering on the Saskatchewan. Failure of supplies to reach him caused delay, but in 1821 they descended the Coppermine to its mouth and surveyed part of the coast eastward. After terrible privations he reached York Factory in 1822 and returned to England the same year.

Early in 1825 he was given command of a second overland expedition. He surveyed westward in 1826 from the mouth of the Mackenzie, while Richardson went eastward from the Mackenzie to the mouth of the Coppermine. These two expeditions added 1,200 miles of coast line to what is now Canada. He was knighted in 1829.

Prior to his appointment as lieutenant-governor of Van Diemen's Land (Tasmania), whither convicts were sent from all over the Empire, he was in Canada again. In 1845,

at almost 60 years of age he was in command of a new expedition to discover the North-West Passage. His ships, Erebus and Terror, were last seen in Lancaster Sound and it was fourteen years before the mystery of their disappearance was finally solved. He and all his companions perished.

As showing the interest in Franklin there were nearly 50 expeditions organized in the next ten years to learn his fate. None was successful until Capt. McClintock in the yacht Fox left Aberdeen in July, 1857. The yacht was fitted out by Lady Franklin. In the spring of 1859 the fate of Franklin's expedition was revealed. In addition to skeletons and other remains on King William's Island and reports from the Eskimo on Boothia, a record was found in a cairn at Point Victory telling of the history of the expedition up to April 25, 1848. The Erebus and Terror, ice-beset, had been abandoned on April 22, 1848.

Franklin had died on June 11, 1847 and the total loss up to that date was nine officers and 15 men. The survivors were to start for Back's Fish River next day. Strength must have failed: an Eskimo woman said that they fell down and died as they walked. Lady Franklin died in 1875 at the age of 83.

A monument in Westminster Abbey commemorates both her husband's fame and her own connection with it.

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No. 208. Wed. April 26, 1939 -- The Spring Fleet

One of the most important migrations in the history of our modern world was the passage of British Loyalists from the New England States to Canada after the Revolutionary War came to an end with the Peace of Versailles in 1783. Their lot was unenviable in the extreme, but it does little good to dwell upon that today. It is quite probable that if Benjamin Franklin had been listened to in London, the American colonies would not have been lost to England.

It is estimated that the total immigration of Loyalists to Canada would appear to have been nearly 50,000 persons, but of all that migration the most spectacular memory was the setting sail on April 26, 1783, of a fleet of 30 vessels from New York with United Empire Loyalists to found the city of Saint John in New Brunswick. This is known in Loyalist history as The Spring Fleet. In all, those who migrated by land and water to the Maritime Provinces numbered about 35,000; those who settled in what later became Upper Canada, along the north bank of the St. Lawrence, about the Bay of Quinte, at Niagara and at Detroit were probably about 5,000.

These Loyalists exerted a profound influence upon the development of Canada as a British Colony. Prior to that migration the population of Canada was overwhelmingly French. Canada was really a French colony of Great Britain, and the number of English-speaking inhabitants were comparatively few. However, the influx of the U. E. L. completely altered the situation; Canada became predominantly an English speaking country.

Also these Loyalists were passionately devoted to "the principle of the unity of the Empire" and their influence in Canada was a very potent factor in our national development. Both in the War of 1812 and in the struggle for responsible government they exerted a profound influence which remains a factor to this day.

It should be said that the British Government came to the relief of the United Empire Loyalists, arranging for the transportation of those who wished to leave the revolted colonies. It offered them homes in the provinces of Nova Scotia, which at



that time included New Brunswick and Quebec, which then included Upper Canada or Ontario. A royal commission was appointed to award compensation for the losses sustained. The British Government did even more than that. Those Loyalists who settled in Nova Scotia, New Brunswick and Canada were given rations, farm stock and implements, until they were able to take care of themselves.

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No. 209. Thurs. April 27, 1939 -- Sydney

Sydney, Cape Breton, is unique. Centre of a great steel and coal industry and a city of wide and well-planned streets, its first great fame was because it was the scene of the Wynyard Ghost Story of 1785.

One of the best authenticated and most famous in literature, the occurrence was in the old barracks. General Wynyard and Sir John Sherbrooke, who at that time were young officers with their regiment, were busy one afternoon at their studies when they both saw Wynyard's favourite brother, whom he had left at home in England, enter their room and proceed to Wynyard's bedrom. The figure was extremely emaciated. They followed the apparition into the bedroom but it had disappeared. Letters from England received weeks later showed that the brother had died on the same day and hour as the ghost had been seen in Canada. The details of the extraordinary story may be found in Chambers' Book of Days.

But Sydney has far greater claims to distinction and it is mentioned here specially because it had a model beginning. Instead of each settler working for himself, all had worked together in clearing the land for a general town site. This was staked out on an elaborate plan by Tait, an army engineer, and was then granted by lots to those who had helped to clear it. Prior to the first arrival of British settlers, Sydney was known as Spanish Harbour and used as a summer post by French fishermen.

Sydney was formally proclaimed the infant capital by Major J. F. W. DesBarres, Lieutenant-Governor of Cape Breton, in 1785, and invited immigrants. DesBarres offered settlers a supply of provisions for three years, with clothing and building materials, as well as tools and implements, and 3,397 persons speedily availed themselves of his offer.

The first winter was a severe one and the new colony suffered when the military authorities decided not to issue food supplies. The officer in command refused to obey the orders of DesBarres and the situation was tense. A vessel was frozen in the ice at Arichat and DesBarres learned that it was loaded with food stores. He purchased both vessel and supplies, had the schooner chopped free of ice and taken as far as Louisbourg, when the provisions were dragged on sleighs to Sydney and distributed to the people.

Governor DesBarres was not in high favour with the Halifax authorities, as it was felt that he was too ready to assist settlers out of the provincial treasury, but his diplomatic handling of the new town's problems won for him a lasting popularity with the people of Cape Breton. He was a Huguenot, educated in Switzerland and England. He died at Halifax in 1824 in his 103rd year.

St. George's Anglican Church at Sydney was built in 1786. It contains a chair from the wardroom of the Victory, Nelson's ship, and was presented by the Admiral when he was at Sydney. The 1931 Census gives Sydney a population of 23,089.

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No. 210. Fri. April 28, 1939 -- Cunard

One of the great Canadians of all time was Sir Samuel Cunard, who died in England on April 28, 1865, at the age of 78. He was a native of Halifax, of Scottish origin.

Cunard was the great shipowner of his time. He became a successful merchant in his native city of Halifax, was one of the founders of the Halifax Banking Company and a member of the Council of Twelve in Nova Scotia.

It was the Royal William that first brought Cunard world-wide fame. He was head of the company that owned that historic vessel. She was the first ship to cross the Atlantic entirely under steam. The United States claims the first steamship to cross the Atlantic. However, the American vessel did not make the voyage entirely under steam, but the Canadian vessel did.

The Royal William was built at Quebec and engined at Montreal. She was only 176 feet long. In the fall of 1833 she put in at Pictou, Nova Scotia, for coal and from that point she set out on her epoch-making voyage. She made the crossing in 24 days, almost 106 years ago. The Royal William passed eventually into the possession of Spain and was the first ship of war powered by steam. The legend is that her old wooden hulk perished under the guns of Admiral Dewey's fleet at Manila Bay in the Spanish-American War.

In 1838 Cunard founded the British and North American Royal Mail Steam Packet Company, from which originated the Cunard line of steamships. Thus he was the pioneer of regular trans-Atlantic steam navigation and pioneer of the Atlantic mail service.

During the latter part of his life he lived in England and in 1859 he was created a baronet of the United Kingdom for the services rendered by the Cunard line during the Crimean War. The Cunard line is now linked up with the White Star and is one of the most important navigation companies in the world today. The Royal Mail Steam Packet Company became a famous steamship service to the West Indies.

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No. 211. Sat. April 29, 1939 -- Discovery of Kerosene

Surely we are entitled as a people to take pride in the contributions that Canadians have made to the progress of mankind. They have been numerous. One who is not so well known as he should be is Abraham Gesner, the inventor of kerosene and of the process of converting petroleum into refined oil.

A generation ago the kerosene oil lamp was the great and efficient light of our homes, as it is in many homes even yet. It had superseded the candle for general use, until kerosene itself was displaced by coal gas, to be followed by electric light. True, we had oil lamps of a sort such as the lighting arrangement of the Eskimos and we even had whale-oil lamps -- the City of London was at one time lighted with whale oil, but, generally speaking, the series was the candle, kerosene, gas and electricity. The common name for kerosene in Canada is coal oil.

Abraham Gesner was born at Cornwallis, Nova Scotia, in 1797, the son of Colonel Henry Gesner, a United Empire Loyalist. He was an unusually brilliant pupil at school, and his father sent him to St. Bartholomew's and Guy's hospitals in London to study medicine. He returned to Nova Scotia in 1824 with the degree of M. D.



While practising his profession he turned gradually to scientific studies, more particularly geology, and so much did he impress the authorities that he was commissioned in 1808 to make a geological survey of New Brunswick. A few years later he made a similar survey of Prince Edward Island.

It was in 1852 at the age of 55 that he made the discovery of kerosene oil, and next year, at the invitation of commercial interests in New York he went to that city to reside. However, his was not the commercial mind, and after a few years he sold his patents for the manufacture of kerosene and retired to his beloved Nova Scotia. He was not in the best of health and two years later he died in Halifax at the age of 67.

Dr. Gesner was one of the remarkable Canadians of his day and generation, and the Imperial Oil Company has placed a memorial on his grave. He was the author of several books, mainly on scientific subjects.

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No. 212. Sun. April 30, 1939 -- Baronets of Nova Scotia

In concluding this little series of events, circumstances and people, intended to show some of the contributions made by Canadians to Canada, the British Empire, and the world in general, merely taking some that are associated with the month of April, thereby hoping to interest visitors to our land in May when the King and Queen visit us, let us have a word about the Baronets of Nova Scotia.

The New England Colonies, so named, made some patriotic Scots hanker for a land in America to be named New Scotland. One of these was James the First of England, but the Sixth James of Scotland. This is what he did.

Great Britain's first attempt at the settlement of what is now Nova Scotia was made on April 30, 1621 when, on the ground of prior discovery, King James granted to Sir William Alexander, a Scottish gentleman of his court, the lands lying between New England and Newfoundland. In the charter, the name Nova Scotia (which is the Latin name for New Scotland) first appeared in contradistinction to Acadia or the Acadie of the French. The charter says of the land "to be holden of us from our Kingdom of Scotland as a part thereof".

Sir William Alexander dreamed of a feudal state, and he entered upon the ownership of his barony with all the display of ancient ceremonial at Edinburgh Castle.

An interesting outgrowth of that undertaking was the creation of a Scottish Order of Knighthood, known as the Baronets of Nova Scotia, which was bestowed upon each of the gentlemen who subscribed 3,000 marks towards the exploration and colonization of the new land. This order was conferred upon 140 persons. Each creation up to 1638 carried with it a barony of four by six miles in Nova Scotia.

The order was not wholly bestowed upon court favourites. All parts of Scotland and Scottish life were reflected in the roll of honour. Although the baronets raised a total of £26,000 the expeditions they sent out were not very successful, and finally in 1632, says an official record of the Province's history, "the treacherous cession of Nova Scotia to France by Charles the First brought the enterprise to an end.

"Oliver Cromwell, the next ruler," the record continues, "recovered what Charles had basely surrendered and Acadia became once more Nova Scotia; but this position was again changed in 1667 when Charles the Second gave away what Cromwell had won."

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DEPARTMENT OF  
TRADE AND COMMERCE



CANADA

**A FACT A DAY ABOUT CANADA**

FROM THE

**DOMINION BUREAU OF STATISTICS**

**MAY 1939**

**FIFTH SERIES**



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James Muir,  
Editor.



from the

Dominion Bureau of Statistics

No. 213. Mon. May 1, 1939 -- The Merrie Month of May

May is one of the loveliest months of the year. Winter has gone and all nature is growing. That is probably the origin of the name. The Latin name Maius, connected with major, probably signifies the month of growth. The Romans sacrificed to Maia, an old Italian goddess of spring and increase, on the first day of the month.

They considered May an unlucky month for marriages, because the festival of the Lemuria to the spirits of the unhappy dead was held during the month, and this old notion of bad luck survives in popular superstition to this day.

The flower of May is the hawthorn and the birthstone the emerald.

The first day of May is called May Day, and May Day festivities probably originated in the Roman Floralia, the festival in honour of Flora, goddess of flowers. In England flowers and boughs of hawthorn (may) were brought from the woods, the prettiest girl in the village was crowned with flowers as queen of the may, and the maypole was set up. May Day was the chimney sweeps' holiday.

On the Celtic May Day festival, called Beltane, fires were kindled on the hill-tops. In recent years the day has been observed as Labour Day in many countries.

Great events which have occurred in May include the chartering of the Hudson's Bay Company in 1670, the legislative union of England and Scotland in 1707, and the great naval Battle of Jutland in 1916.

Famous birthdays include those of Joseph Addison, Browning, Dante, Florence Nightingale, Queen Victoria, Wagner, Brahms, J. M. Barrie, Joan of Arc, Albert Einstein and Edward Jenner.

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No. 214. Tues. May 2, 1939 -- St. Lawrence Navigation

The King and Queen, when they arrive in Canada this month, will find in the St. Lawrence a highly developed and safeguarded waterway. Safe passage is provided by a series of thirty-four coastal and harbour charts, and these are inseparably linked with other aids to navigation such as lighthouses and lightships, buoys and beacons, fog alarm and storm warning signal stations, and the latest acquisitions, radio beacons and wireless direction finding equipment. Mammoth ocean liners of as much as forty-two thousand tons and thirty-three feet draught now plough confidently through the St. Lawrence at a speed undreamed of in earlier times.

The charting of the St. Lawrence route stands out as one of the major achievements in the annals of hydrography. It is a story of ships and men. From the time of the early French explorers in 1678 intermittent attempts were made to sound the waters of the river. However, it was not until 1827, when Captain Bayfield was appointed by the British Admiralty to chart the river and gulf, that any marked progress was made in this stupendous task. Bayfield's first schooner, the little "Gulnare," was built specially for him in a Quebec shipyard in 1828. He spent twenty-nine years working up and down the river and gulf, and his ships, his work and his remarkable personality still live in the memory of the seagoing folk of Lower Canada.

Sailing in his wake came able successors in the persons of Bullock and Osleby.

and Tooker, Chimmo, Maxwell and Kerr. Until 1904, the shipping of the St. Lawrence was guided by the charts of these intrepid hydrographers, and the combined results of their work are still to be found incorporated in some of the charts issued to vessels today.

Shortly after the beginning of the present century, the increase in number, tonnage and speed of vessels and changes in aids to navigation and in harbour facilities, brought demands for more modern and up-to-date charts. The task of charting the St. Lawrence from Quebec to the sea was assigned to the Canadian Hydrographic Service in 1904, and the work has been carried on with few interruptions since that date. While large areas in the gulf are as yet inadequately charted the completion of the steamship route along the north shore in 1938 marked another milestone in Canadian navigation.

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No 215. Wed. May 3, 1939 -- National Forestry Programme

A scheme of great importance, which involves a reforestation policy, has been undertaken by the Dominion Government in cooperation with the Provinces. It is called a National Forestry Programme.

Between 800 and 1,000 youths will be given training in camps under the control of the Dominion and another 1,000 will be enrolled in provincial projects. Application forms have been supplied to provincial employment offices in the districts where Dominion work will be undertaken, and selection of youths is being made from applicants who are between the ages of eighteen and twenty-five, residents of cities, towns or villages, and who are certified by a municipal or relief authority as being unemployed and in necessitous circumstances.

The projects will include construction of roads, trails, telephone lines, lookout towers, fireguards, and other improvements required for forest protection and development. A number of the young men will be detailed as assistants to the rangers and park wardens. Other classes of work will include the treatment of timber stands to increase growth, improve timber quality and favour species of high commercial value by thinnings, release cuttings and similar operations. Attention will be paid to forest recreational developments by the provision of facilities for tourist campsites, fire-places and wells. Provision is also being made for the construction of dams and stream improvements to aid fishing conditions, and for miscellaneous projects to assist wild life conservation.

An important feature of the programme is the training which will be provided. Besides the work itself, which will give valuable experience in a great variety of woods operations, special courses of lectures will be delivered on such subjects as woods travel, forest protection, woodlands management, elementary surveying, wild life conservation, operation of mechanical transport, and construction of forest improvements. Physical training and recreation will be on an organized basis and first aid instruction will be supplied.

It is now practically certain that all the provinces will participate in the National Forestry Programme. Ontario was first in the field and already has young men out planting trees in reforestation operations.

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No. 216. Thurs. May 4, 1939 -- Wood Thread

Several years ago the story was told in this series of Facts that the manufacture of excelsior, or wood wool, has come to be one of Canada's interesting minor manufactures. Nowadays we are quite familiar with wood wool, for it is used in many ways, including upholstering and the making of mattresses. Most of the Provinces have at least one factory.

One thing leads to another and we are now getting acquainted with the Fact that among the new fibres and threads there is what is called a "Hofa" thread which is being produced mainly as a substitute for jute, ramie, hemp and similar natural fibres.

This thread consists of wood fibre stock and viscose, the latter serving as a binder. In contrast to the practice in the production of wood pulp, the wood fibre stock is entirely freed from "fibre slime" and fine fibre fragments by thorough washing, so that the result is a loose homogeneous fibre structure similar to that of raw cotton.

After some other special treatment and suitable spinning, a thread resembling horse hair is produced.

The present young generation may not be so well acquainted with the use of horse hair as their elders, for chairs and sofas upholstered with horse hair cloth are not very common these days, but they were fearfully common half a century ago. Their chief objection was they were so slippery it was almost impossible to get a really comfortable seat. But they had one great merit, they lasted long.

If this new wood thread can be manufactured without being as slippery as horse hair, there is a chance that the old upholstering may come back. Meanwhile, the report is that rope-making will be one of the wood thread outputs.

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No. 217. Fri. May 5, 1939 -- Starfish

We don't regard the starfish as a food fish, possibly because it doesn't look appetizing. But neither does a crawling crab or squirming eel, or a privateering lobster. However, we don't look upon the arrayed starfish as a food prospect. It is beautiful to behold but, on the other hand, it is a potential enemy of one of our choice food supplies, as witness the following illuminating story which comes to us from the Fisheries Department:

Starfish are lazy fellows, in Prince Edward Island waters at all events. They don't do much travelling. "Who cares, anyway?" says someone. Well, the oyster ought to be interested for the simple reason that starfish are among the oyster's worst enemies and their travel habits are therefore important wherever oysters gather together.

As a matter of fact, it was because starfish prey upon oysters that federal fisheries scientists carried on the experiment in Prince Edward Island which brought out the fact that the star-shaped fish are not much given to far travels. Control of starfish may be a serious problem in an oyster area and knowledge of their migratory habits is valuable, if not essential in determining how control may best be effected.

Carrying out the experiment, the research people gathered together 5,000 starfish, stained them all with distinctive colouring, and set them free. Later on,

recapture was undertaken by "mopping" the sea bottom. The recaptured specimens could be recognized because of the staining, of course, and it was found that the distances they had wandered were relatively short. What was more, the directions they had taken "appeared to be random and not influenced by the presence of oysters unless the latter were concentrated."

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No. 218. Sat. May 6, 1939 -- Canada and Turkey

The story of Turkey is the story of a great rise and a great fall. She was once a world power. The Turks belong to the Turanian race, which comprises the Manchus and Mongols of North China, the Finns, and the Turks of Central Asia. Their numbers probably exceed 50,000,000, with the same language, religion and culture, but the actual Turkish State occupies only a small part of the area inhabited by the Turkish race, the remainder being in Soviet Russia, China, Afghanistan and Persia. Under the Seljuks (Turkish rulers in Anatolia) the conquest of Asia Minor was completed in the 11th century. The Seljuks were succeeded, early in the 14th century, by the Osmanli dynasty, which remained in power until the Great War.

During the 15th, 16th and 17th centuries the Ottoman Empire was one of the strongest powers in the world, extending from the Caspian Sea to the Adriatic and Hungary, and from the Indian Ocean to Morocco and the Sudan. It comprised Asia Minor, part of Russia, the Ukraine, the Crimea, the Balkan States and the whole of Arabia. The Black Sea, the Mediterranean, the Red Sea and the Aegean were dominated by Turkish ships, and the Ottoman dominions included not only the Byzantine Empire, but the greater part of the whole Roman Empire.

For two centuries preceding the Great War, disintegration had reduced the power and extent of the Turkish Empire, and during the Great War its boundaries were further restricted, Iraq, Syria and Arabia passing into other hands.

Turkey now extends over an area of 410,000 square miles, from Adrianople to Transcaucasia and Persia, and from the Black Sea to the Mediterranean, Syria and Iraq. Turkey in Europe is only 9,256 square miles but it includes Constantinople (Istanbul), the former Byzantium of Constantine the Great, and Adrianople (Edirne) and is separated from Asia by the Bosphorus and the Dardanelles. Turkey in Asia comprises the whole of Asia Minor, or Anatolia, the national capital being Ankara (Angora) with a population of about 125,000. The total population of Turkey is now about 16 $\frac{1}{4}$  million. The majority of the inhabitants are Moslems. Education is compulsory, free and secular. In 1928 the Grand National Assembly passed a law by which Islam ceased to be the State religion of the Republic, and the neo-Latin alphabet replaced Turkish characters. In 1934 it was stated that the percentage of Turks who could read and write was 45, compared with 22 in 1928.

Canada's imports from Turkey are mainly figs, dates, oak bark, metal ores and dyes, the total last year being valued at \$329,000, while our exports were chiefly aeroplanes and parts valued at \$427,000, our total exports being \$437,000.

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No. 219. Sun. May 7, 1939 -- Blue Mountain Coffee

An information-seeking correspondent wants to know what brand of coffee is used by the King and Queen, now on their way to Canada. We don't know. Possibly they don't use coffee at all. However, even if they do, it is more than likely that, if we asked, we wouldn't be told. Indeed, if we happened to be told, it is a good deal of a certainty that we would not be allowed to make the information public.

Of course, there is coffee and coffee, and probably most of the coffee we purchase at the corner grocery is a blend. Some blends suit some palates better than others. What special brands go into the blending is a subject better left to the mixers.

However, it is quite interesting to know whence come some of the famous varieties. Take one as an example, for it well portrays the age-old truth that the brand is by no means the whole thing. Also it is a British Empire product. A great deal of our Canadian coffee comes from Jamaica, although it is only 16th as a coffee-exporting country. Of the eight or ten million pounds exported, only three per cent or less is the famed Blue Mountain coffee.

This fine coffee is produced on lands from 5,000 feet to the tops of the highest peaks in the Blue Mountain system of eastern Jamaica. The plantations are on the southern slopes. The climate is probably unsurpassed for the production of coffee. The soils developed on the basaltic lavas and limestones are friable and allow good subsoil drainage with little surface erosion. Fungus diseases are easily overcome.

The Blue Mountain coffee tree, *C. arabica*, was brought to Jamaica from the east early in the eighteenth century. The same variety is grown on most parts of the island, as well as in most coffee-producing countries.

The rare flavour then is not due to the species grown, but seems to be a combination of altitude and peculiar soil and climatic conditions where growth is uniform but slow. Due to its outstanding quality, we are told, the finest coffees of the world are compared with it.

The coffee plantations on the Blue Mountains are small as a rule. The estates are situated on such steep slopes that cultivation is very difficult, and the steepness of the land makes hand labour necessary for all operations. The most common method of transportation for man as well as for freight is by horse or donkey along the narrow mountain trails.

The yield is small, averaging less than 90 pounds per acre, and the preciousness of the product allows no waste or consumption on the plantation. Nearly all of it is shipped direct to England, where it is used as a blend, it is stated, and marketed under several trade marks.

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No. 220. Mon. May 8, 1939 -- Weeping Willow

"I'll hang my harp on a weeping willow tree," said to be a line from a poem written by an English gentleman who was hopelessly in love with Queen Victoria, has given a touch of sadness to the willow. So also has the willow of Babylon, enshrined in our memory by the passage in the 137th Psalm, where the captive Children of Israel are represented as hanging their harps upon the willows by the rivers of Babylon. Of course, the English poem referred to should not be confused with the tavern song in parody.

There are fifty species of willows in Canada but one of them, the Weeping Willow, is an exotic, and we are indebted to George A. Stevenson, gardener at the Dominion Experimental Station at Rosthern, Saskatchewan, for the charming story of its arrival.

The Weeping Willow came to the North American continent from the East through the agency of Alexander Pope, the English poet. The story goes that Pope was present when the cover was being taken off a box of fruit shipped to England from Smyrna. He observed that one of the sticks appeared as if it contained some life. He planted it in the hope that it would grow into something not known in England. From that stick grew the willow tree that has given birth to so many others.

During the American Revolution, a young British officer brought a slip of Pope's tree with him across the Atlantic and from it, it is said, have come all the Weeping Willows in North America. Linnaeus, the great botanist, named the tree *Salix Babylonica*, the allusion being obvious.

The willow is a beautiful tree. The flowers appear before the leaves and with the fruits resemble those of the poplars. They may be readily recognized from other trees by their winter buds, which are covered by single scales. On some of our waterways they make a lovely picture as, for example, on the banks of the Otonabee River between Peterborough and Rice Lake in Ontario.

The wood is light, soft, tough for its weight, and perishable when exposed to conditions favouring decay. It is used for artificial limbs, for cricket bats, and mainly for special purposes, but it is not of commercial importance.

No. 221. Tues. May 9, 1939 -- The Australian Nut

What is to us in Canada a new nut has been receiving considerable notice recently, and the Journal of the Royal Society of Arts has become interested. It is the Australian Nut, and its botanical name is *Macadamia Ternifolia*.

After a long period of undeserved neglect, it is state, the value of the Australian Nut is at last being recognized and the time will no doubt come when it will enter into our trade with the Antipodes.

The Australian Nut, it is definitely affirmed, produces more oil than any other nut -- 76 per cent of the finest quality. It is a food of high nutritive quality and, most important of all, it is claimed to be the best flavoured nut in the world. It is grown in north-eastern New South Wales and Queensland, but up to the present its cultivation has not received proper attention.

There would seem to be an unlimited demand for this new delicacy, but only small quantities have hitherto been sold -- too small to make a statistical item so far. At times its wholesale price has reached 20 cents per pound in Melbourne and Sydney.

The nut thrives in a rainy climate, and in a dry season the yield per tree is comparatively small. It is easy to propagate from seed, but as the young seedlings do not take kindly to removal, considerable care is needed when they are transplanted. The tree is used as a shade, and the hulls, or green coverings of the nuts, contain substances that are useful for tanning leather. The information given is that permanent orchards are to be established.

Canada imports between three and a half and four million dollars' worth of nuts in a year and the variety is very great. Most of our cocoanuts come from Jamaica



almonds from Italy, peanuts from China, pecans from the United States, Brazil nuts from Brazil, filberts from Italy, walnuts from China, although we get nuts in large quantities also from the United Kingdom, India, Bolivia, France, Mexico, Spain and Turkey. The normal trade with Spain has been much disturbed during late years.

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No 222 Wed. May 10, 1939 -- Salt Runways

Commercial aviation in Canada has opened up a new field for salt, according to the Department of Mines and Resources, which has supplied the Bureau with some further information than was contained in one of these Facts last year. Salted runways at airports of the Trans-Canada Air Lines are one of the most recent developments in soil stabilization. Salt-stabilized runway bases have been or are being installed at Edmonton, Calgary, Pagwa, Earlton, North Bay and other air centres.

The successful use of a mixture of salt and clay as a stabilizer for the foundations of highways and a surface veneer for gravel roads led to its adoption for air runways. The firmness of a runway is a primary consideration and the necessity for the provision of adequate landing places for commercial carriers at the main centres and intermediate points brought salt into the picture. The heavy air liners now require longer runways than was the case a few years ago, as they climb more slowly and descend at a flatter angle.

The production of salt is one of Canada's oldest mineral industries, and almost the entire output is sold in the Dominion, principally to the dairy, meat-curing, chemical, canning, and fisheries industries, and to highway and transport departments for soil stabilization, and as table salt for household use. Consumption of salt in the manufacture of chemicals continues to increase and the chemical industry is the largest single consumer of the commodity in Canada. More than forty per cent of the salt output is used in the form of brine, notably for the manufacture of chlorine and caustic soda. These materials are essentials of modern life; one protects drinking water and the other forms the basis of soap.

Salt production in Canada during 1938 set an all-time high record of 468,717 tons compared with 458,957 tons in 1937, the former high record. The 1938 output was produced in Southern Ontario; at Malagash, Nova Scotia; at Neepawa, Manitoba and at McMurray, Alberta. Ontario salt is obtained from brine wells, as is also the salt produced in Manitoba and Alberta. The Malagash salt is recovered by mining rock salt and by evaporation from brine produced by leaching the waste material in the mine

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No. 223. Thurs. May 11, 1939 -- Tung Oil

Tung Oil is often spoken of as "Chinese Wood Oil". It is obtained from the seeds of a tree indigenous to China and Japan. The seeds are usually roasted broken into a powder and pressed. The cold pressed oil is pale yellow and is known to the trade as 'white tung oil'. That resulting from hot pressing is dark in colour and termed "black tung oil". The raw oil has a peculiar odour suggestive of ham. It is reputed to be poisonous. The Chinese product is superior because of its good drying qualities.

Tung Oil is used principally in the manufacture of varnishes and linoleum. When incorporated with ordinary rosin and suitably thinned, a varnish is obtained which is not affected readily by water, while varnish made with rosin and linseed oil

alone is quickly turned white by contact with water. In consequence of this behaviour of Tung Oil, it has become very popular with the varnish makers as a means of producing cheap but good varnish. It is specially useful, therefore, in vessels.

When heated to a high degree the oil coagulates to a transparent solid which is elastic under compression, and this product has been recommended as a rubber substitute. Hydrogenated tung oil expands in a noteworthy manner on solidifying from the molten state.

Since its inception in 1929 the Imperial Institute Sub-Committee on Tung Oil has been engaged upon the encouragement of the production of Tung Oil in the British Empire. Plantations are now to be found in Assam, Burma, Nyasaland, South and East Africa, Australia and New Zealand. They vary in size up to about 5,000 acres. In many cases some of the trees are now beginning, or about to begin, to yield fruit in appreciable quantities. The owners are prepared to sell in the form of nuts or oil, as seems best. The resultant oil cake is only good as a fertilizer.

The consumption of Tung Oil in Canada is about  $6\frac{1}{2}$  million pounds in the year, valued at close to one million dollars. Being expensive it is frequently adulterated with cotton-seed oil, soya bean oil, etc. to make it more widely available.

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No. 224. Fri. May 12, 1939 -- The Atlantic Ice Patrol

This morning's newspapers tell us that the Empress of Australia, carrying the King and Queen to Canada, is fog bound on the Atlantic, surrounded by ice-floes and icebergs, and in all probability will be late in arrival at Quebec.

For the first time since the Titanic disaster in 1912, we are told, icebergs have drifted so far south into the North Atlantic steamship lanes.

This year, while the prediction of the oceanographer of the United States Coast Guard forecast that slightly more than the normal number of icebergs would drift south to the Grand Banks of Newfoundland, an unexpected impinging of the cold wall (which is the boundary between the cold Arctic current and the warm waters of the Gulf Stream) upon the waters of the Gulf Stream has brought the bergs down to the United States-European lanes.

So rapid was the movement of these icebergs that shipping has been on an emergency track since May 5, and a second emergency track 45 miles further south is being recommended.

The various transatlantic steamship companies are parties to a North Atlantic track agreement, whereby they agree to follow certain routes recommended by the hydrographic office of the United States Navy, which insures safety from collision with icebergs at all seasons of the year. Iceberg information is broadcast by the hydrographic office four times daily at this time of the year.

So efficient has been the work of the ice patrol, which is directed by the Coast Guard, that not a single life has been lost since the ice patrol was inaugurated immediately following the sinking, as a result of collision with an iceberg, of the White Star liner Titanic, 27 years ago. The Titanic was on her maiden voyage to New York.

The sailing distance between Southampton, where Their Majesties embarked, and Quebec is 2,924 miles.



No. Sat. May 13, 1939 -- Canada and the Philippines

The Commonwealth of the Philippine Islands is one of the masterpieces of American administration abroad, paralleling closely the spirit and enterprise of British policy.

The islands were discovered in 1521 by the Portuguese navigator Magellan, who was slain by the natives of Mactan. In 1565 Spain undertook the conquest of the islands, naming them "Filipinas", after the son of the King of Spain, and in 1571 the City of Manila was founded by Legaspi, who subdued the inhabitants of almost all the islands. Christianization was undertaken by Augustinian friars.

In 1762 Manila was occupied by a British force but was restored to Spain two years later. In the 19th century there were frequent disturbances in the islands and at the outbreak of the Spanish-American War of 1898 a rebellion under Aquinaldo, a famous native leader, had just died down. Aquinaldo was deported but on his return his services were accepted by Admiral Dewey, commander of the American Pacific Fleet, after the annihilation of the Spanish vessels in Manila Bay. Filipino troops assisted the Americans in the capture of the city on August 13 of that year.

After the capture of Manila, Aquinaldo established a republic, but the islands were ceded to the United States by the Treaty of Paris later in the year, and American sovereignty was enforced. The struggle lasted until 1902.

Progress was rapid and in 1935 the islands received "Commonwealth" status. A president and a national assembly were made elective, and under the Constitution of 1934 the Philippines will receive full independence not later than 1946.

The area of the islands is 114,400 square miles, or about half the size of Manitoba, the population about 15 million, almost all of Malayan stock, of whom the large majority are Roman Catholics. Of the foreign-born residents, 81,000 are Chinese, 21,000 Japanese, over 6,000 Americans, nearly 5,000 Spaniards and 2,000 other Europeans.

Large sums have been expended upon education and the latest available figures show 1,262,000 pupils in the public schools, the University of the Philippines about 7,000 students and the private universities about 14,000. There is an excellent highway system.

Canada's trade with the Philippines is of some importance. Our imports last year amounted to \$662,000, of which cocoanut oil and manila grass were the main items, along with flax, hemp and jute textiles and lumber, chiefly mahogany. Our exports amounted to \$1,862,000, nearly half of which was wheat flour. Other important exports were fertilizers, soda and compounds, paper, copper, canned fish and machinery.

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No. 126. Sun. May 14, 1939 -- Nosegays at Church

Sitting in a city church this morning, a church in which were about one thousand worshippers, the thought occurred that there has been a vast change in the adornment of the people of a Sunday since the century began, or perhaps the great change has taken place in less time than that, maybe the Great War changed us.

The minister wore a Geneva gown, as of yore, but he was otherwise habited in a jacket suit and he had on a business man's collar. He did not wear the orthodox bands. There was not a man in the church with a morning coat and not for many years

has a man worn a frock coat, sometimes called the Prince Albert or the surtout.

However, it was not to the garb that the thoughts particularly turned this morning. The flowers, late this year around Ottawa, were coming along nicely in the gardens nearby, but there was not a single man or boy in that church who wore a flower on the lapel of his coat. Indeed, during the walk home no man could be seen carrying flowers. Some ladies did, but they were very few.

May one recall from the past the appearance of a young newspaper man on his way to church early in the century, for he was typical of the times, and he is a very distinguished editor today. He wore patent leather shoes, striped trousers, a Prince Albert coat, a boiled shirt, a high starched collar, his white cuffs exactly half an inch below the sleeves of his coat. He had a silk hat upon his head, a cane in his right hand, kid gloves carried in his left, a Bible under his arm, and he wore a flower in the button hole of his left lapel. There was not a man or boy in the congregation that gathered who wore a coloured shirt, and the ladies in the choir had their hats well bedecked with flowers or plumes. By comparison this morning's church-goers were dull and colourless.

A leading writer wrote the other day that flowers, leaves and seeds were carried to church to "nibble". This was not our experience. Rather was it the practice to surreptitiously smuggle into one's mouth one of those peppermint lozenges which were usually called "presbyterians" and they helped wonderfully in assisting the older folk to digest the homily or the exegesis of the minister and to keep the youngsters quiet as well.

There were not so many youngsters at church this morning as in the older days, and the family pew has gone into the limbo of a past that had habits not to be spoken of lightly. Of course, the family itself is not so apparent as it was -- there are fewer children to go to church.

However, it was the absence of the flowers that was this Sunday Fact, the absence of these things of beauty. Perhaps we haven't the gardens now that we used to have -- as go for a car ride in the evening instead of puttering in the backyard. So we haven't the flowers.

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No 227    Mon May 15, 1939 -- Cooperating with the Farmer

The importance of fertilizers in practically all phases of agricultural activities is recognized generally, but it is ever a matter that requires emphasis. Results of soil investigational work and reports of fertilizer trials conducted by agricultural institutions and fertilizer manufacturers are ample proof that the application of these materials to the soil is essential to satisfactory crop production on many farms in Canada. Continued cropping gradually depletes the soil of plant nutrients and under the best conditions of farm management it is safe to say that much more of the elements of fertility is removed than is returned to the soil in the form of farm by-products such as manure.

Probably the greatest problem in the use of fertilizers today is that of determining what plant food constituents are required and at what rate per acre they should be applied to produce maximum crops. In an endeavour to assist the farmer in this regard representatives of agricultural institutions, manufacturers and dealers meet periodically, review results of their investigational work with fertilizers and prepare recommendations which are made available to the farming public.



It is interesting to note, however, that in recent years more attention is given to other means of obtaining a knowledge of the fertilizer requirements of the soil of the individual farm. Through the medium of the soil survey, the soils of a district are classified according to type and any fertilizer trials conducted on these have a greater significance when the farmer knows to which type his soil belongs. Rapid chemical tests used in the field for estimating the amount of available plant food constituents in the soil are growing in popularity and as more knowledge is gained in regard to their adaptability to different soil types the value of these quick tests is increasing.

Another aid to the determination of fertilizer requirements is that of observing plant deficiency symptoms. It has been found possible to correlate certain well marked leaf symptoms with plant food deficiencies in the nutrient solution; consequently when similar symptoms are observed they indicate which element or elements of fertility are inadequate in that soil for normal plant development.

The Mining, Metallurgical and Chemical Branch of the Dominion Bureau of Statistics states that over 677,000 short tons of fertilizer were manufactured in Canada during the twelve months ended June 30, 1938, while the imports ran to nearly 372,000 tons. This would indicate that the farmers and gardeners in Canada make considerable use of fertilizers.

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No. 228. Tues. May 16, 1939 -- An Historic Cove

A lady from Saskatoon, having read what was said about Sir Samuel Cunard and the Royal William last month, asks for some further information because of the announcement that the Empress of Australia, bringing the King and Queen to Canada, will dock at Wolfe's Cove.

There is a long modern pier, built of concrete, set in the sands where over a century ago the first transatlantic steamship was built. Their Majesties will set foot on what was in 1831 the beach when the Royal William was sent down the ways into the St. Lawrence River to become the pioneer of ocean navigation.

The Royal William was constructed at Wolfe's cribs by a Scotsman, James Goudie, her hull being completed in 1831. The same year she was towed to Montreal where two engines designed by John Bennett, another Scotsman, were fitted into her at the Bennett and Henderson foundry.

The Royal William, a sidewheeler, set out for England in 1833, the first vessel to cross the Atlantic, or any ocean, solely by steam power.

Jack Goudie, a grandson of the builder of the Royal William, is living at St. Romuald, a village across the St. Lawrence from Quebec. At 82 years of age, he is the last surviving member of the family.

Some of the older readers will remember that Jack Goudie was at one time one of the best rifle shots in the Dominion. He was a member of Canadian teams that competed both at Bisley and Wimbledon.

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No. 229. Wed. May 17, 1939 -- Spare the Wild Flowers

Two or three years ago there appeared amongst the "Facts a Day" an appeal to unthinking people to save the beautiful wild flowers of Canada from extinction. Now we are again asked by the Department of Agriculture to reproduce a note on the subject, issued by that alert organization. Here it is:

"Canada's diminishing succession of lovely wild flowers has now reached a point that their ultimate disappearance can be avoided only by the care and consideration of the people. Throughout the years, the greatest destruction of wild flowers has been the clearing of the forests and land for farms and habitations, assisted by forest fires and the grazing of animals. Still later, the want of thought on the part of persons, particularly in the vicinity of the larger centres of population, has hastened the possibility of wild flowers sharing the fate of the buffalo, the musk ox, the great auk, the carrier pigeon and other wild life, for already some of the finest specimens in the woods have disappeared. Hence, the appeal of horticultural societies throughout Canada for the preservation of wild flowers.

"The preservation of wild flowers does not mean that no one is allowed to pick a bloom, but it does demand a little thought from the picker. For example, some wild flowers should not be picked at all. Plants like the white trillium, the floral emblem of Ontario, are best left alone in all the glory of their original setting, because these flowers cannot be picked without removing all the foliage on which depends the maturing of the bulbous root for the following season's crop of flowers. Other species of wild flowers, such as violets, hepaticas and the like whose flower stems rise directly from the roots, may be picked at will, provided the body of the plant is left undisturbed.

"Tearing up a plant by the roots to gain a bloom is wanton destruction and means only one thing -- the passing of beautiful flowers from the Canadian landscape. It is against this reckless plucking of wild flowers that the horticultural societies make their appeal."

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No. 230. Thurs. May 18, 1939 -- Arctic Population Increasing

The population of the most northerly areas under Canadian control is increasing, not only by reason of the natural processes of multiplication, but also by the northward movement of the Eskimos. According to records which have been compiled by the Department of Mines and Resources, approximately 100 natives have migrated north from South Baffin Island during the past five years.

The opening of a trading post at Dundas Harbour on Devon Island marked the first group movement of the Eskimos to the northern Arctic. Attracted by the possibilities of better hunting, 11 families of Eskimos from Baffin Island volunteered to settle on Devon Island and hunt in part of the Arctic Island Preserve created for them by the government of 1926. The transfer of these natives was completed in 1934 when the Eastern Arctic Patrol made its annual cruise aboard the "Nascopie". After a two years' trial the trading post on Devon Island was closed and at their own request arrangements were made to return the Eskimos to Baffin Island.

In September, 1936, the 11 families -- 56 homesick men, women and children, -- with 183 dogs, boats, kayaks, tents and other belongings were moved to Arctic Bay on Baffin Island, from which point they were to be returned to their homes in Dorset, Pangnirtung and Pond Inlet. However, large herds of seals sighted during the voyage down the Admiralty Inlet made the Eskimos forget their loneliness and they asked to



be left at Arctic Bay where a plentiful supply of game was evident.

Success crowned the efforts of the natives to establish themselves in the vicinity of Arctic Bay, with the result that during the winter the wireless operator at Arctic Bay sent a message on behalf of two of the Eskimos inviting their relatives at Cape Dorset and Lake Harbour on Hudson Strait, more than six hundred miles to the south, to come north to the better hunting grounds. These invitations were accepted and four more families were taken to Arctic Bay by the Eastern Arctic Patrol in 1937.

New impetus was given to the Eskimo migration in 1937 by the establishment of a trading post at Fort Ross on Bellot Strait, which separates Somerset Island from Boothia Peninsula. Four of the Eskimo families who originally left Southern Baffin Island for Devon Island in 1934 offered to aid in the establishment of the new post, and were transferred from Arctic Bay to Fort Ross. During the winter of 1937 invitations from the Eskimo settlers at both Fort Ross and Arctic Bay led to another migration of six families, comprising 39 members, who were carried north with the Eastern Arctic Patrol of 1938, to join their relatives and friends in the new settlements at Fort Ross and Arctic Bay.

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No. 231. Fri. May 19, 1939 -- Family Living Expenditures

A recent survey of urban wage-earner family living costs made by the Dominion Bureau of Statistics shows that many factors affect expenditures for living needs. The amount of family income is generally considered the dominant influence, but income in turn is related to the age of the principal breadwinner, and the numbers and ages of children also affect the character of family living expenditures. Despite this, there appeared to be no general tendency in urban wage-earner families of British origin for the number of children to increase in the higher family income groups, although in French families the average number of children was larger at higher income levels. In both racial origin groups, amounts spent per person declined as the number of children in the family increased. Average expenditure per person dropped from \$516 in British families with one child to \$212 in households with five children. Corresponding averages for French families were \$397 and \$219. All budget groups contributed to this decline, with food outlay per person falling from \$127 to \$74 for British families and from \$109 to \$75 for French families with one and five or more children respectively.

A different picture was obtained when expenditure records were classified according to the age of the father to examine relations between expenditures and the lengthening life of the family. The number of children per family tended to increase until the father's age was somewhere between 45 and 54, and amounts spent per person on food and clothing increased slightly as the age of the father moved upward into that range. This was associated with a more rapid rise in income than in numbers of children at progressive age levels of the father. Among the British families in the survey, income rose from an average of \$1,319 in cases where the father's age was between 25 and 34 to \$1,541 where ages ranged from 45 to 54 years. In the next ten-year age period, average family income dropped back to \$1,451, and average numbers of children per family decreased from 2.5 to 2.3. Total expenditures per person declined slightly from \$378 in families where fathers' ages were between 25 and 34 to \$358 for families with fathers between 55 and 64 years of age.

Analyses of records for living expenditure tendencies related to numbers of children and the length of time the family had been formed, did not reveal the existence of a "typical" family. Families with one child under 13 years, or with two children from four to 12 years apparently possess some claim to this title, but contrary

to popular opinion, families with three children form a definite minority. The tendency already noted, for income to increase as the family life span lengthened was apparent in family groups with the same number of children. The earnings of older children were partly responsible for this increase. For families with the same number of children, expenditures on food and clothing mounted as the family life span extended but not by the full amount of the income increase. Housing and household furnishing expenditures actually declined as the number of children increased. Most other budgetary outlay showed very little relation either to rising income or the lengthening family life span. Apparently a wide diversity in consumer tastes exists, which is scattered fairly evenly among "non-necessity" expenditures such as recreation, transportation, and savings.

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No. 232. Sat. May 20, 1939 -- Canada and Yemen

Down in the south-west corner of Arabia there is a kingdom called Yemen which is one of the most interesting of the smaller countries of the world. Yemen means 'the land on the right hand' of Syria, and it is the Arabia Felix, the happy Arabia of the ancients. It lies next to the British Protectorate of Aden. Hodeida is the chief port, which is noted for the export of coffee, shipped from there to Masawa and Aden, and thence to Europe and America. Mokha is the old centre of the coffee trade.

The country has an estimated area of 74,000 square miles, or half as large again as our own Maritime Provinces, and a population of about  $3\frac{1}{2}$  millions. The highlands and central plateau of Yemen, and the highest portions of the central range form the most fertile part of Arabia, where wheat, barley, millet, coffee and oats are grown. The trade of Yemen perhaps exceeds that of the remainder of Arabia. These highlands average about 9,000 feet. The typical hill towns have high stone houses and paved streets. The mountain strongholds have long been known for their independence, which some of them preserved during the earlier Turkish occupation between 1536 and 1630.

The northern part nearly down to the latitude of Sana is the territory of the Hashid and Bakil tribes which never submitted to the Turks. Sada is an important town on the old pilgrim road. The oasis of Jauf contains many villages and was the focus of the old Minaean and Sabaean kingdoms, known to the ancients through their control of the frankincense trade of South Arabia. Marib, the Sabaean capital, was celebrated for its great dam but the city was abandoned through the deterioration of the country by dessication.

The district between Sana and the Jauf is covered with Himyaritic ruins, showing that the land formerly supported a large, settled population where, owing to the want of water, cultivation is now impossible. Throughout the whole of Yemen is found the rajil -- a cemented well for the storage of water. These wells have associations with Persian influence in the sixth century.

The inhabitants of Yemen are settled and for the most part are engaged in agriculture and trade. A Treaty of Friendship with the British Government was signed in 1934.

From Aden we get coffee, undressed fur skins and a little tobacco, all imports reaching slightly less than \$10,000 last year, while our exports to that port had a value of \$135,000, of which automobiles and equipment accounted for over \$110,000. There were 145 Canadian cars sent there last year.

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No. 233. Sun. May 21, 1939 -- Canadian Granite in War Memorial

Canadian granite played an important part in the building of Canada's National War Memorial at Ottawa, which was unveiled today by His Majesty King George VI. More than 7,000 tons of stone were quarried to obtain the 828 tons actually used in the construction of the memorial.

The search for a suitable type of granite was carried out by the Bureau of Mines of the Department of Mines and Resources, whose engineers made a painstaking examination of samples from all operating quarries in Canada and gathered information regarding weathering characteristics, size of blocks available and other technical data. The choice narrowed down to four or five deposits which were examined in the field, and finally a quarry at Rivière à Pierre, some sixty miles northwest of Quebec City, was selected.

The stone from this quarry is described as a rose-grey granite of medium to coarse grain in which the quartz crystals are translucent to transparent and very brilliant. It is remarkably free from iron, a condition conducive to freedom from rust streaks or staining. The exacting specifications of the memorial required the stone to be free from blemishes and of uniform colour and texture.

After quarrying, the stone was shipped to St. Samuel, Quebec, for cutting to the proper size and shape. The largest piece weighs more than forty-two tons and was cut from a block which, when quarried, weighed sixty tons. Three other pieces weigh approximately thirty-seven tons, seven weigh more than twenty tons, twenty-nine more than ten tons and nineteen are less than ten tons in weight, of which the smallest is three and one-half tons. These dimensions and weights are much greater than those ordinarily used for building operations, and such blocks required special care in handling and cutting.

The actual erection of these large blocks of granite was carried out without any elaborate machinery. Eye bolts, four in the case of the largest pieces, were set in the blocks to which ordinary chain hoists were attached and the only motive power was four workmen at each hoist. Extreme care was taken to keep the blocks level while being hoisted to ensure that the stress was evenly distributed throughout the stone, thus avoiding any chance of strain or breaking. When raised to the proper level, the pieces were carried to their position by a travelling crane.

Canada's National War Memorial, commemorating the services of her sons during the Great War, is located on Connaught Place in Ottawa, Canada's capital. The memorial consists of a group of twenty-two bronze figures representing all arms of the service, who are presented as pressing eagerly forward between the two granite columns. These columns are surmounted by an architrave bearing the heroic bronze figures of Peace and Freedom. The whole memorial is nearly seventy feet in height and faces the busy streets of Ottawa to the south, with the broad Ottawa River and the rugged hillsides of the Laurentians in the blue distance behind it.

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No. 234. Mon. May 22, 1939 -- Purple Martins at Ottawa

Visitors to Ottawa during the visit of Their Majesties remarked upon the number of Purple Martins they saw around the city, particularly near Parliament Hill. Among the thousands of interested spectators that witnessed the laying of the cornerstone of the new Supreme Court of Canada by Queen Elizabeth on Saturday was a thriving colony of purple martins. These attractive and useful birds now live in a large, 24-compartment bird-house about one hundred feet east of the new building.

For many years the purple martins nested nearby in the eaves of some old buildings, but when a number of these buildings were torn down by the Government in the autumn of 1936 some of the birds were deprived of their homes. As the purple martin forms a strong attachment for the site it occupies, a new bird-house was erected in the vicinity by the Federal District Commission at the suggestion of officers of the Department of Mines and Resources.

Largest of the Canadian swallows, the purple martin prefers to nest in groups and colonies, and adds charm to any region it inhabits. The attractive colours, shapely form, graceful flight and soft warblings of this beautiful bird make it aesthetically pleasing. It feeds upon flying insects and in that way is economically valuable.

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No. 235. Tues. May 23, 1939 -- Spare Wild Life

Some authorities estimate that one vertebrate wild creature is killed by motor vehicles every day of spring and summer in every five miles of roadway in the United States, and the death toll of wild life on Canada's half-million miles of roads during the six months of spring, summer and fall driving must be enormous.

The loss of wild life in Canada prompts the Department of Mines and Resources, which administers the Migratory Birds Convention Act in Canada, to make a special appeal to motorists to reduce the heavy toll that motor cars are taking of the denizens of our forests and fields.

Few motorists realize that the coming of spring, when Nature is eloquent with life and rich in the joy of living, marks the commencement of the season when death stalks the highways for the creatures of the wild. There are few drivers of cars who have not at some time or other heard or seen a bird collide with their cars and looking back observed a broken, crumpled bundle of feathers squirming in the dust. Some species of birds love taking dust baths on the country roads and others alight on the roadway to pick up insects killed by passing cars only to be crushed to death by fast-moving traffic.

Then there is the driver who seeing a rabbit blinded by the glare of headlights will deliberately step on the gas and try to run down the confused animal.

A little more thoughtfulness on the part of drivers of motor vehicles would save many of these creatures from disaster, and sometimes a lingering death with great suffering. Apart from humane reasons, such consideration would go a long way in helping to conserve Canadian wild life, which is not only of great interest to the people, but of economic importance as well.

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No. 236. Wed. May 24, 1939 -- Ginseng

The medicinal properties of ginseng have been famous throughout the ages, and early in our modern Canadian history it entered largely into the exports of Canada. The plant was identified in Canada in 1718 and during the later years of the French regime an active trade in ginseng sprang up between Canada and China. In 1752 over 50,000 francs' worth of the plant was exported from Quebec. The demand for ginseng, however, brought into the market roots gathered in the wrong season and dried too quickly in ovens, and this inferior product came to be discredited in the Chinese market with the result that the ginseng trade fell away even more rapidly than it had



grown up.

The ginseng plant is a herbaceous perennial springing from large, spindle-shaped, aromatic roots. The erect, simple stems bear a solitary whorl of three long-petioled, compound leaves, the leaflets are large, thin, oblong and pointed. The flowers are greenish-white, in a simple terminal umbel, and the fruit is bright red, and berry-like. It grows in rich cool woods throughout Quebec and Ontario.

At one time ginseng obtained from Manchuria was considered to be the finest quality and became so scarce that an imperial edict was issued prohibiting its collection. However, the ginseng prepared in Korea is now the most esteemed variety. The root of the wild plant is preferred to that of the cultivated ginseng, and the older the plant the better is the quality of the root considered to be.

Great care is required in the preparation of the drug. The taste is gummy, sweetish, and slightly bitter and aromatic. The root is frequently forked and it is probably owing to this circumstance that medicinal properties were first attributed to it, its resemblance to the body of a man being supposed to indicate that it could restore virile power to the aged. In price it varies from six or twelve dollars to the enormous sum of three or four hundred dollars an ounce.

The action of the drug appears to be entirely psychic, and comparable to that of the mandrake of the Hebrews. There is no evidence that it possesses any pharmacological or therapeutic properties. However, the lack of that evidence has not destroyed confidence and ginseng appears both in the import and export trade figures of Canada. It is included with other medicinal roots so it is impossible to give the exact figures.

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#### No. 237. Thurs. May 25, 1939 -- Controlled Investments

We don't often bother you with very many figures, but once in a while it is a good thing to get down to bed rock and examine things. Read this about foreign controlled investments in Canada and Canadian controlled investments abroad.

Interest and dividend payments by Canadian companies controlled abroad totalled \$155,000,000 in 1937, an amount greater than the total interest payments on the Dominion public debt during the same period. Of this amount, \$93,000,000 was paid to parent companies and individuals in the United States, \$21,000,000 went to Great Britain, and minority shareholders and bondholders in Canada received \$38,000,000.

Payments abroad by these companies represent almost one-fifth of all payments out of Canada on current account for purposes other than purchase of commodities in the Canadian balance of international payments statement for 1937. These payments of interest and dividends were made possible by an externally-controlled investment which took root in the 17th century and has grown steadily until it now represents a significant part of the capital invested in all Canadian industry.

In bringing profit to non-Canadian investors, externally-controlled investments have brought advantages to Canadians which far outweigh the losses incurred in dividends and bond interest sent out of the country each year. The rapid industrial development which took place in Canada in the first quarter of this century could not have occurred without large-scale financial backing from abroad.

Although foreign-controlled investments are found in almost every type of business in Canada, there are marked variations in their relative importance in the

different groups of Canadian industry. Extreme examples are afforded by the motor vehicle and the sugar industries, the former being controlled abroad to the extent of 99.5 per cent and the latter being wholly controlled in Canada. Other industries and the extent to which they are controlled abroad are, respectively: loan companies 35 per cent, pulp and paper 45 per cent, farm implements 58 per cent, rubber and rubber products 80 per cent and prepared breakfast foods 98 per cent.

Canadian controlled investments abroad at the end of 1937 totalled \$511,000,000. Although Canada is not customarily considered as a capital exporting nation, this investment is only slightly smaller in proportion to the population of the country than is the corresponding investment of the United States in proportion to the population of that country.

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No. 238. Fri. May 26, 1939 -- Today's Fish Story - An Angler

The Angler is a fish that carries its own fishing tackle. Cicero wrote of it. In popular speech it is sometimes called the monk-fish or, indeed, by any one of half a dozen names.

The angler is found on both sides of the North Atlantic; though it is not ordinarily used for food on this side of the water it has been a staple food fish in different European countries for a long time. The flesh is firm and white and is perhaps most suitable for frying.

The fish is one of the most ancient, and in some respects one of the most peculiar, of all the many species occurring in Canadian waters -- the waters of Atlantic provinces. A weird creature, it takes the name of angler from the fact that it carries on the top of its big head a spiny ray bearing resemblance to a fishing rod complete with bait. This ray gives the fish the appearance of being equipped with fishing tackle all its own and, as a matter of fact, the ray does serve, in a sense, as fishing gear. A bait-like appendage to the ray glows with radiance in the deep waters and apparently lures other fish as they swim about in search of food. There's food then, all right, but the would-be diners become the dinner. Too late, they find the angler's wide mouth gaping for them and a moment later they've been gobbled up.

The angler is a voracious creature and cases have been reported in which specimens have been captured containing in their distended stomachs other fish as large as the devourers themselves. Nor does the angler stop at eating only fish; sometimes it is called the Goose-fish, taking that name from the fact -- recorded in a bulletin written by a Canadian scientist but dealing with the general history of the fish and not only its history in Canadian waters -- that "it is known to have swallowed geese which were floating on the surface of the water." Seven wild ducks are said to have been found in the stomach of one angler, and six coots in another. The head is bizarre and fearsome -- uneven in surface, spiny, with enormous mouth, lower jaw projecting, each jaw carrying four rows of teeth, large and prominent eyes staring from the top of the head.

In colouring, the angler is usually a mottled chocolate on the upper portion of the body and white below. The average size of adult specimens captured during the Canadian investigation was about three feet, but the fish run to larger sizes than that. On the average, the specimens examined weighed about 28 pounds but only some 10 pounds of the total weight was marketable, thanks mainly to that big head.

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No. 239. Sat. May 27, 1939 -- Canada and Finland

Finland is a country situated on the Gulf of Finland and Bothnia. The area is almost 140,000 square miles, or about three times the size of our Maritime Provinces, with a population at the 1935 census of 3,787,000. About 10 per cent are Swedish-speaking. Less than one-half of one per cent are Lapps leading a nomadic life in the north. Nearly all the inhabitants are Lutherans.

Finland was wrested from Sweden by Russia and united to the Russian Empire in 1809 as an autonomous but not sovereign Grand-Duchy. When the Russian Empire broke down in 1917 Finland declared herself an independent sovereign state.

The following year the country sustained severe disturbances on account of the aggression of Russian Bolshevism, but managed to restore order, and the relations of Russia and Finland were finally settled by treaty in October, 1920.

Finland is a most progressive country, with universities, technical and high schools. Saw mills, wood pulp, cellulose and paper manufacture provide the chief industry and there is no European country so rich in forests except Russia. These extend over 62 million square miles.

It has a fine merchant fleet of over 560 steam vessels, 175 motor vessels and 134 sailing ships. Finnish ships and sailors are familiar in all the leading Canadian seaports.

Service in the army is universal and compulsory, and there is also a volunteer organization of Civic Guards with an enrolled strength of about 100,000. There is a peace-time army strength of 25,000.

There are some unusual things about Finland. It is a republic with only one chamber, elected by universal suffrage of both sexes, women being likewise eligible for election to the Chamber. Finland was the first country, in 1907, to concede woman suffrage and representation, and it is noteworthy that this was gained without agitation.

Finland also was for some years a Prohibitionist country, the only one in Europe, but Prohibition was repealed in 1932.

Canada's trade with Finland has some importance. Our imports last year, amounting to \$99,000, included cheese, wool, furniture, paper, engines and boilers, farm implements, glass tableware, stone, leather footwear. Our exports to Finland, at \$578,000, included a smaller variety of articles, mainly wheat, flour, rubber tires, farm implements, other machinery, upper leather and felt.

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No. 240. Sun. May 28, 1939 -- Big Game at Banff

It was quite interesting to note that King George, while at Banff, got a photograph of an albino moose and saw several other varieties of the big game in the national park there.

A well known naturalist reports that he counted sixty-seven bighorn sheep, forty-five mule deer, twenty-three elk, and eleven moose while making a traverse census between Banff townsite and the seven-mile post on the highway to Lake Louise. Elsewhere in the Bow River valley between Banff and Lake Louise, and between Banff and the east gate of the park, observations made by him from the highway on previous

occasions indicated that these species are well distributed throughout the park.

Other observers and visitors in Banff National Park state that the big game is thriving. During a twenty-mile motor drive along the Banff-Jasper Highway, the park superintendent counted twenty-four Rocky Mountain sheep at one point alone and he also saw four moose and at least a dozen deer. Evidence that this abundance of game extends beyond the park's boundaries is seen in the superintendent's report that he observed more than sixty Rocky Mountain sheep along the Calgary highway outside of the park during the first week of May.

The conservation of wild life in all its forms continues to be one of the primary purposes of Canada's national parks. Under the sanctuary conditions provided in the parks throughout the Dominion all native species of big game have prospered, and the opportunity to see these big game animals in their natural surroundings is an outstanding attraction for visitors. Within the parks cameras are carried instead of firearms and there are few more interesting pastimes than "hunting without a gun."

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No. 241. Mon. May 29, 1939 -- Oak Apple Day

The fruit of the oak is the acorn and not the apple, so why the English people call May 29 "Oak Apple Day" requires a little explanation which is quite a lesson in botany and history.

May 29 was the birthday of Charles the Second in 1630 and also that day in 1660 when at the age of 30 the exiled young king set foot again in England at the Restoration. Only eleven years before that date his father, Charles the First, had been beheaded by the revolutionaries.

The Restoration on May 29 was celebrated by the Royalists, who decorated their houses with branches and leaves of oak, so commemorating also the King's escape from the Parliamentary soldiers searching for him after the Battle of Worcester, when he hid with Colonel Careless in the oak at Boscobel, near Donington, in Shropshire.

Oak Apple Day is still observed in many parts of England, and by many English families in Canada, but notably at the Royal Hospital, Chelsea, as Founders' Day, when the statue of Charles the Second is decorated with oak-leaves and solemnly saluted.

Now what is the oak-apple? It may be any of several kinds of apple like galls produced on the leaves of oaks by certain gall flies. The most typical of these is the gall caused by the female gall-wasp which pierces the shoot-buds and deposits eggs in the wounds, setting up irritation. This irritation produces swelling of the plant tissue.

These attacks give rise to galls of various forms, but all serve as food stores for the larva which emerges from the eggs. Some, because of their appearance, are known as the marble or bullet gall. These marble and apple galls are often found in clusters.

Oak galls were formerly used in ink manufacture, and are still used in dyeing.

The English oak is a tree of great longevity. One specimen is considered to be 1,800 years old. It does not produce acorns until between 60 and 70 years old and it does not pay to cut it for timber until it is in its second century. North America has over a score of oaks. Several yield bark suitable for tanning.



No. 242. Tues. May 30, 1939 -- The Federal Library

Somewhat obscured by the Great Central building of the Canadian Parliament, back of which it stands and with which it is connected, the Parliamentary Library is one of the fine Gothic buildings on this continent. By the strange chance of a favouring wind and the efforts of the firemen, it escaped the flames in the destructive conflagration of 1916.

The Library gives a visitor the impression of being in a past century. The blue-domed ceiling meets in a cupola whose top soars over 130 feet above an inlaid floor of oak, cherry and walnut. It is a circular building and the circumference is grottoed with book-lined nooks, above which climb a double tier of balconies and books. It looks ancient, even more ancient than it is, and there is nothing worldly about it.

There are actually not so very many books, fewer than half a million, but the Library contains literary treasures that could not have been replaced had they gone in the 1916 fire. The Canadiana is said to be the best in the world, only that of Harvard University being comparable in that respect.

Although it was intended primarily for the parliamentarians, it is available to others, and students and writers from many lands consult its archives for information.

The outside of the Library is as pleasing to the eye as the interior. From the circular foundations to the tip of the weather vane, from the bases to the flying buttresses and Gothic arched windows it is an architectural gem set upon a great cliff overlooking the broad Ottawa River, whose surface has calmed down after tumbling its troubled waters over the Chaudière.

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No. 243. Wed. May 31, 1939 -- Fewer Railway Crossing Accidents

Here is a lesson in psychology. Last year it was Col. C. C. Stibbard's duty to make an intensive study of the question of the large increase in motor vehicles in Canada during the last two decades and the steadily increasing loss of life and personal injuries at highway crossings. That question was the cause of great concern to the Board of Transport Commissioners for Canada and to the Canadian railways. Col. Stibbard is the Board's chief operating officer.

As a result of his study, Col. Stibbard came to the conclusion that the warning signals, sounded by the engineer of the train, which had been in effect almost since the inception of railways in this country, had not kept pace with modern day practices. The warning signal, so long in effect, consisted of two long whistles and two short whistles, to be sounded a quarter of a mile from each railway crossing.

This signal was quite effective in the horse and buggy days when the warning could be heard distinctly by a driver of a horse-drawn vehicle, and when the speed of the train toward the crossing was faster than the approach of a horse-drawn vehicle. In the present day age, however, an automobile might be a considerable distance from the crossing when the warning signals are sounded from the engine and after the sounding of the whistle the automobile in many cases travels faster toward the crossing than the train.

It was also interesting to note that the greatest number of accidents occurred directly after the summer months, indicating that as soon as the cool weather set

in automobile windows were closed, making it much harder for the driver of the automobile to hear the warning signals of the train.

Special tests carried out revealed that in the majority of cases the last two blasts of the engine's whistle (known as short whistles) failed to have the same sound carrying propensities as the first two blasts of the warning signal (known as long whistles), and it was found that a long blast required the whistle to be opened at its full aperture, whereas the short blasts only required a partial opening, and therefore the sound carrying propensity of the latter was greatly reduced.

As a result of the tests and upon the recommendation of Col. Stibbard, the Board of Transport Commissioners issued an Order to all railways in Canada, changing the engine whistle warning signal for highway crossings from the former "Two long and two short whistles", to "Two long, one short, and one long whistle." The change, therefore, consisted of making the last blast a long one instead of a short one, as previously.

The change was made effective on October 15, 1938, and here is the result: From October 1, 1937 to May 30, 1938, the number of accidents at railway crossings was 195 and casualties 340, but from October 1, 1938 to May 30, 1939, the number of accidents was 156 and casualties 282, a reduction of 39 accidents and 58 casualties. It is confidently expected that the current year will set a new low record of accidents and casualties at highway crossings.

In spite of the huge increase of motor vehicles using the highways during the recent visit of Their Majesties, it is very gratifying to note that there was a decrease of four accidents during May of this year compared with the same month a year ago, whereas it was anticipated that the heavy movement of traffic would result in a heavier toll of accidents than at any time previous.

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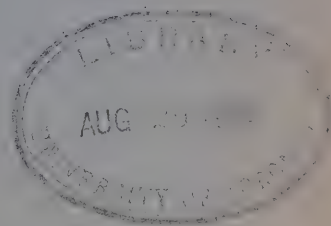
**A FACT A DAY ABOUT CANADA**

FROM THE

**DOMINION BUREAU OF STATISTICS**

**JUNE 1939**

**FIFTH SERIES**



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James Muir,  
Editor.



from the

Dominion Bureau of Statistics

No. 244. Thurs. June 1, 1939 -- Leafy June

June is with us again and we are glad. The wonderful trees are in full array and all Nature has put on her glorious summer plumage. The King and Queen will soon be gone from our shores they have found so friendly and loyal, and we in Ottawa are thinking it was such a pity that Their Majesties did not see the Capital City at its best. It was a late season here and the trees were not in full splendour.

Ottawa is a beautiful capital city even when the autumn winds have laid bare the branches of the maples and the elms, but it is a city that has been blessed with an abundance of trees and to see Ottawa at its very best, June is the month.

We speak of June as the bridal month, for more young people marry in June than in any other month of the year. We don't know the exact reason for that, but it is traditional. Perhaps it is because the origin of the name probably came from Juno, the queen of the gods and the patron of marriage.

But there is no certainty about the etymology of June. Perhaps it came from the Juniores, the Latin word for the youth generally, yet others hold that it was named after Junius Brutus, who was consul in this month. The Anglo-Saxons called it Sere-monath, the dry month.

The special flower of June is the honeysuckle and its birthstone is the pearl.

Some notable events that have helped to shape the world's destiny have occurred in June. There was the signing of the Magna Charta by King John in 1215, the Battle of Bannockburn in 1314, both events signifying the onward march of freedom. John and Sebastian Cabot found the shores of North America in 1497, and the Battle of Waterloo ended the conquering career of Napoleon.

Amongst the famous people born in June were Arnold, Grieg, Empress Josephine, Kingsley, H. M. Stanley, Wolsey, King George V, and Peter the Great.

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No. 245. Fri. June 2, 1939 -- Ling Cod

The ling cod is rather a unique fish in that it is found only in the northeastern part of the Pacific Ocean -- unique, too, in that it is the richest source of insulin so far discovered among fish, though not at present exploited for this reason. It is particularly abundant in the shallow inshore waters of the British Columbia coast.

Ranked as fifth in value among food fishes of British Columbia, and second among ground fishes, exceeded only by halibut, the ling cod is growing in commercial importance. The catch in 1938 was approximately 50,000 cwt.

The body of the ling cod is long in proportion to its girth, and is closely covered with small smooth scales. The head is moderately large with protruding lower jaw. The mouth is large and both jaws have long, sharp, canine-teeth. Adding to the unusual appearance of the fish is a fleshy flap behind and above each eye. The dorsal fin is long and high with about 25 spines, followed by a rayed section. In colour the

Fish varies, more or less according to age. Juveniles are blueish with irregular blotches on the sides, while in the more mature fish the colours vary from blueish brown to dark green with orange markings. Males at maturity are usually smaller than females.

Ling cod inhabit areas of rocky bottom over which there is a considerable tidal current and several methods are used in catching them. Live bait, herring by preference, is used in handlining. Close to the rocky shores the fish are also sometimes taken by trolling, using a spoon and a heavy sinker.

The spawning season extends roughly over January and part of February. Eggs are extruded in a selected crevice between large rocks on the bottom, usually ten feet or so below the lowest tide level. Eggs are attached to the rocks by a strong adhesive, formed on the contact between the salt water and a secretion extruded with the eggs. A feature of the spawning is that after the eggs are placed and fertilized, the male fish mounts guard over the "nest". The devotion of the male fish, which constantly fans the eggs with its powerful pectoral fins, keeping a continuous change of water flowing over them, is matched by his willingness to repel any intruders, such as dogfish, which menace the "treasure trove". Many thousands of eggs are deposited by an individual female and it has been calculated that a fish of 30 inches will deposit approximately 60,000.

The ling cod does not swim about searching for its food. Instead it lies quietly on the bottom, eyes moving slowly as small fish swim overhead. But there is nothing slow about the fish itself. A choice morsel selected, with a powerful motion of its tail the fish darts up to seize its passing victim. Incidentally, the ling cod seizes the victim tail first.

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No. 246. Sat. June 3, 1939 -- Canada and Saudi Arabia

Arabian countries and their romance have an attraction for us, and none more so than the Kingdom of Saudi Arabia. The inhabitants are an ancient race but the kingdom is a very modern state, as such. It is only seven or eight years old. It is a personal union of two countries, the Sultan of Nejd being also the King of the Hejaz.

In the 18th century Nejd was an independent state and the stronghold of the Wahhabi sect. This was a Puritan movement within Islam. The Wahhabis purport to follow in detail the practice of the prophet Mohammed, and regard as infidels all who do otherwise. Their enemies are the enemies of the true faith and therefore their every campaign is a holy war, death in which is a sure passport to Paradise. In their communities tribal distinctions are completely eliminated. The old pastime of tribal raid and counter-raid is discountenanced. The blood feud is no more.

Nejd fell under the Turkish yoke but in 1913 the present King, Abdul Aziz Ibn Rahman al Faisal I Saud, threw off Turkish rule and captured from the Turks the Province of Hasa. In 1921 he added to his dominions the territories of the Rasid family of Shammar, which he captured by force of arms, and in 1925 completed the conquest of Hejaz. In 1926 he accepted the surrender of the greater part of Asir, the whole of which is now part of his kingdom. He is 59. His son, born in 1905, is the heir-apparent. There is a treaty with Great Britain which recognizes the independence of the kingdom.

Nejd, or The Plateau, has no definite frontiers, but may be said to occupy over 800,000 square miles of Central Arabia and reaches eastward to the Persian Gulf. The population of 1,275,000 is chiefly nomadic and composed of Arabs, Negroes and



half-breeds. The capital city, Riyadh, has a large mosque, the Westminster Abbey of the Wahhabis. The city has a population of 30,000.

The Hejaz, meaning The Boundary, extends from Asir on the south to Transjordan on the north and from the Red Sea and Gulf of Akaba on the west to Central Arabia. The coast line on the Red Sea is about 800 miles, the area about 112,500 square miles, and the population about 400,000. Amongst the ports is Jedda, the reputed tomb of Eve, the mother of mankind.

There is very little direct trade between Canada and Saudi Arabia, most of the commodities of both countries passing to and fro through British ports. The Arabs export woven cloaks, dates, hides and skins.

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No. 247. Sun. June 4, 1939 -- Early History of the Canadian Family

From 1608, date of the first successful attempt at colonization, to 1666, date of the first census, the population of Canada progressed very slowly; it numbered 28 souls in 1608, 274 in 1639, and 3,215 in 1666. Fifty years after the arrival, in 1617, of the first Canadian family, consisting of Louis Hébert, his wife and their three children, the Census of 1667 registered only 668 families. Except for the period 1665-72, when Louis XIV became interested in colonization, immigration under the French régime was practically non-existent.

Acadia, although left to itself, made good progress until 1755, when the expulsion from Nova Scotia took place. From 1755 to 1763, 14,000 persons were deported, of whom a large number perished in their incessant journeys. Not only was the mortality rate very high, but the birth rate in such circumstances was greatly reduced, with the result that in 1787 the Acadian population (in and outside Acadia) numbered only 12,000. It had reached nearly 18,000 in 1755.

The slow growth of population in New France is understandable when it is remembered how neglected the colony was by the mother country, how long and hazardous was the crossing of the immigrants, and how serious were the dangers with which they were surrounded. It took great courage under these conditions to settle in Canada and courageous indeed were the immigrants who took that course, whether their motives were flight from the wars of religion, desire to bring Christianity to the native, ambition to assure the future of their children, or taste for adventure.

Two publications, "Relations des Jésuites" and "Histoire véritable et naturelle des mœurs et productions de la Nouvelle-France", together with two agencies, the companies and the seigneurs, played a large part in promoting the settlement of New France. The colonists who were induced to come by these means and whose settlement was facilitated can be divided into a small number of families, single men, engagés or soldiers, and single young women, filles du roi or peasant girls.

The young Canadian family, as established all along the north shore of the St. Lawrence river by 1667, was practically self-supporting: for its food it could rely on its crop, a few cattle and chickens, hunting and fishing, while home-grown hemp and flax provided the necessary material for "l'étoffe du pays". The obstacles to expansion were many and serious -- the massacres by the Iroquois, the ravages caused by epidemics, and the desertions of the coureurs-de-bois. These, however, could not stop progress, since their effects were opposed by the high birth rate that goes with early marriages in a young and healthy population. The life of the colonists, if it was a rugged one, was by no means dull and gloomy; celebrations were held on many occasions and Canadian social life dates back to the very first days of Canada.

No. 248. Mon. June 5, 1939 -- Size of the Canadian Household, 1666-1931

The period 1666-1931 is divided into two parts, with a large gap intervening, due to the fact that censuses from 1739 to 1851 do not give the number of households. In the first part, the average household size is above six persons from 1681 to 1730. The second part starts with 6.18 persons per average household in 1851, which increases to 6.29 in 1861 (this being the highest average ever attained for the country as a whole) but for 1871 and subsequent censuses continued, though irregular, decreases were reported. These variations are attributed to movements of population, whilst the broad regularity of the trend of the decrease is due to constant factors, such as declining birth rate, ageing of the population, greater proportion married and urbanization.

Urbanization in Eastern Canada has been rapid and continuous since 1871. Not only did urban centres grow at the expense of rural areas but the average size of the urban household experienced a smaller drop in these latest sixty years than did the average size of the rural household, which, however, remained higher than the former at each census.

Interesting comparisons may be made regarding the average size of the household, rural, urban, and general, in the Eastern Provinces for the last sixty years. Among others may be mentioned: a smaller household size in 1931 than in 1871 is recorded for each of the five provinces; the smallest drop in average household size for the entire sixty years is shown by Quebec; the lowest average household size at every census is in Ontario; etc., etc.

The average size of the rural household in the province of Quebec has been increasing since 1901. A study by counties made for the decades 1901-11 and 1911-21 shows that it was really a general increase and not one due to the influence of a limited number of counties having abnormally large households. Moreover, it shows conclusively that racial origin is an important factor in determining the average size of the household.

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No. 249. Tues. June 6, 1939 -- Recurring Large and Small Families

The average size of the Canadian household from 1871 to 1931 was influenced by a number of factors. One of them, however, stands out among the others as being responsible for the alternate large and small decreases registered during the last sixty years, viz., the population movement. The points of agreement as well as of disparity in all six decades, when compared minutely, reveal that the larger decreases in the size of the household are identified with the movement from the older into the newer counties, whereas the smaller decreases are related to the movement to the West and the United States, and especially with the invasion of urban centres by immigration and the movement of native rural population.

These results are quite logical for the following reasons: (a) the movement from thickly populated to newly settled counties was, on the whole, made by members of small families who, because there was no more room for expansion in the old counties, had to look outside for their own maintenance. Now, when young Canadians went West or passed over to the United States, they decreased the size of the household in Eastern Canada, but, when they left for newly settled counties the effect was to decrease it doubly, for, besides reducing the number of large households they also increased the number of small households; (b) the citywards movement created a large increase of population in the urban centres, but did not create a corresponding increase in households, a fact which, naturally, retarded the decrease in the average size of the household.



The increase in households did not keep pace with the growth of population because a large proportion of the population, foreign or native, invading the cities was made up of single young men or young women who for the most part took up rooms in private families or in boarding houses; (c) except for very special periods, Canada could absorb but a small fraction of its immigration, and in certain decades only one out of twenty or even one out of thirty-five immigrants remained in Canada. Their emigration, coupled with a movement of native rural population to new rural areas instead of to cities, would produce a large decrease in the average size of the household.

Concluding from past experience one may say that the average size of the Canadian household will, in all probability, go on decreasing, but the decrease should get smaller with each decade. Perturbing factors which have operated in the past -- large immigration, mass settlement, too rapid industrialization -- are not likely to repeat themselves. The rural household may even increase in size, as it did for Quebec and New Brunswick in 1931, now that the new counties have passed the initial stage of settlement. On the other hand, further decreases, although smaller ones than those registered so far, should be expected for the average size of the urban household, for modern city life undoubtedly thwarts the normal expansion of families and households.

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No. 250. Wed. June 7, 1939 -- The Typical Household in Montreal, Toronto and Winnipeg - 1

Since these Facts are devoted to a discussion of average household size, it is necessary to determine with what accuracy the average measures that size. First, does the average indicate size in such a way that the foreigner, anxious to know something of family structure in Canada, would get a fair picture by a study of the average? Investigation is confined to the cities of Montreal, Toronto and Winnipeg, since the number of households by size has been compiled only for these three cities. In each city the most commonly occurring or modal household consists of three persons while the average persons per ordinary household is 4.60 in Montreal, 4.10 in Toronto and 4.37 in Winnipeg. Due to their larger size, certain groups of households above the modal size, viz., those with five persons in Montreal and those with four persons in Toronto and Winnipeg, contain the greatest number of people. Now it will be noted that these sizes are the integers nearest to the average persons per household in each city. Apparently, the average, instead of indicating the size of the modal household, indicates the size of the household containing the most people. It does, however, provide a useful measure of standard household size.

Secondly, to what population phenomena is average household size most sensitive? This is a very important point since, in the analysis of material available from past censuses and from the present census for small subdivisions of the population, it is necessary to draw conclusions concerning family size and composition from averages without the knowledge of other numerical indices. Average household size is considerably larger in Montreal than in Toronto but investigation reveals that the difference is almost entirely due to differences in the proportions of households with six or more persons.

Since only one-fifth of the Montreal households are of such sizes, it is clear that a small group of large families has a pronounced effect in determining average persons per household. The difference between the average persons per household in Montreal and Toronto is considerably smaller than the difference in the average sizes of normal households of one family with husband and wife living together as heads, the reason being that there are more households with two or more families in Toronto. Factors other than children per family, therefore, have an important weight

in determining average household size and for this reason it is not a reliable measure of fertility. This must be borne in mind when studying average household size as derived from earlier censuses where the households were of very heterogeneous types, some, for example, being penitentiaries with several hundreds of inmates.

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No. 251. Thurs. June 8, 1939 -- The Typical Household in Montreal, Toronto and Winnipeg - 2

A consideration of the size distribution of households raises the question as to how size of house varies with size of family. Since the correlations between persons per household and rooms per household are very low in each city, it is apparent that the housing question is largely a problem of distributing the available accommodation and not of providing more.

Overcrowding results to a pronounced degree from large families living in small houses while the smaller families are occupying the large houses, and the building of a large number of new houses would do little to decrease overcrowding unless the new accommodation went to those most in need of it. Differences of opinion as to when a household is overcrowded must certainly arise but in studying census data an overcrowded household may be best defined as one where there are fewer rooms than persons.

On the basis of this definition most of the households in Toronto consisting of seven or more persons were overcrowded. It is most significant that approximately one-half the overcrowded households, containing two-thirds of the people living under crowded conditions, had seven or more members. Consequently, the provision of adequate room for large families can scarcely be accomplished by building small low-cost houses, although it is true that conditions in large households in Toronto in 1931 were aggravated by the fact that very often more than one family was living in the household and lack of privacy was very keenly felt.

It might be that a considerable proportion of these households would split up if it were possible for the constituent families to obtain small cheap dwellings but it must not be assumed that they would do so. The head of a large family of children earns no more than the head of a small family and he obviously cannot afford the larger house which he needs. His position can be remedied, not by subsidizing the construction of small houses, but only by subsidizing his income in proportion to the size of his family. Then he can rent, heat and furnish the large house which he requires and which is available at present.

Many parents may avoid overcrowding by limiting the size of their families. In this connection it is significant that wage-earners have smaller families than employers and "own accounts" which may be attributed to complete lack of flexibility of their incomes with size of family. Limitation in family size for many people is the only alternative to poverty and misery.

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No. 252. Fri. June 9, 1939 -- Today's Fish Story - Dried Codfish

Perhaps our older readers will recall that in their youth they were sent to the store to purchase dried codfish and they rarely send their own youngsters now on the same errand. Dried codfish was a fairly regular diet with a great many people. The thought prompted a look into the statistical records and we find that



during the last two decades of the last century Canada's average production of dried codfish was close to one million hundredweight a year, which is quite a sizeable output.

However, in the last ten-year period the average production has not reached 300,000 hundredweight. The business is only about one-third what it was. What is the reason? Let the Department of Fisheries tell the story in its own way:

"And this notwithstanding that the waters off the Dominion's Atlantic Coast, long famous as one of the world's great sources of cod, apparently still have in them as many of these fish as they ever had.

"The change in dried cod figures is eloquent of three things in particular -- the development of added methods of preparing fish for market, with consequent shifts in emphasis in the fish business, secondly a sharpening of competition in important markets for Canadian dried cod, and thirdly, the dislocation of market conditions in various overseas countries in recent years.

"This combination of factors, and with others perhaps contributing, have made the position of the Canadian dried fish industry very difficult of late and it is for this reason that a Salt Fish Board, with headquarters at Halifax, is being set up by the federal authorities. Stated broadly, the purpose of the board will be to assist the salt fish industry -- the term "salt fish" covers both pickled and dried fish -- by market exploration and development and, under certain conditions, by financial aid. Headquarters are to be at Halifax because it is on the Atlantic Coast that the Dominion's salt fish industry is centred."

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No. 253. Sat. June 10, 1939 -- Canada and Bahrain

What the general public might regard as a dry-as-dust statistician walked this morning into the office in which these Facts are written and he was beaming with pride and pleasure.

"What a woman!" he ejaculated.

Quite evidently he was thinking of Queen Elizabeth, for he immediately added: "My wife would like to know where she got that wonderful string of pearls."

Well, we didn't know and don't yet know where the Queen got the pearls that most of the ladies have been talking about. Perhaps somebody better acquainted with royalty could tell.

However, these pearls call to mind a charming little story about a little Moslem state in the Persian Gulf which is under British protection, that marvellous beneficent guardianship that has meant so much to defenceless people all over the world, a guardianship which is being challenged today and for whose preservation prayers are rising to Heaven.

Bahrain is a group of little islands of which the total area is about 213 square miles, or about one-tenth the size of Prince Edward Island, but there are 150,000 people there, nearly double the population of Prince Edward Island. It is an independent Arab state and has had treaty relations with Great Britain for over a century.

From ancient times Bahrain has been the centre of the pearl-diving industry in the Persian Gulf, where the finest pearls are found, and it is quite probable that

some at least of Queen Elizabeth's pearls came from that Arab state ruled so well by Sir Hamad bin 'Isa Al Khalifah.

That little country exports goods to the value of about \$15,000,000, the chief item being pearls, but there has been an important discovery of oil there, and this trade is mounting. Bahrain is already, small as it is, the twelfth largest exporting oil country in the world.

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No. 254. Sun. June 11, 1939 -- Lodgers

There were 555,606 lodgers in Canada in 1931 of whom 89.29 per cent lodged in ordinary households and the remainder in hotels, rooming houses, institutions and camps. The high proportion of lodgers living in rural parts of Canada who lodged in households where they were the sole lodgers (61.9 per cent) is readily explainable since, being scattered, they had to lodge apart, but it is most significant that 38.4 per cent of the urban lodgers lived in households where there was only one lodger. Adding the percentages of urban lodgers living in one-lodger and two-lodger households it is found that 58.2 per cent lived in households where there were not more than two lodgers.

This tendency for lodgers to live in small households where they may enjoy maximum home privileges would seem to indicate that Canadians are a home-loving race, especially in view of the fact that comparison with United States figures reveals a lesser tendency there. The rooming-house population is largely composed of floating elements of foreign races, particularly the Chinese and Japanese, while the typical Canadian lodger seeks a private home.

Since so many lodgers are found in private homes, it is interesting to determine the types in which they most frequently are found. Examination reveals that tenants take in lodgers more frequently than do home-owners. Since data relating to households with lodgers were very meagre it has been necessary to resort to correlation analysis. The households dealt with in the analysis are a homogeneous group, viz., those of one family with tenant wage-earner married male head living with his wife and paying at least ten dollars and less than sixty dollars for monthly rent.

The average number of lodgers per household has been correlated with four factors, viz., rent per room, children per household, persons per room and earnings per person. From these correlations the following inferences may be drawn: lodgers prefer rooms of good quality as measured by the rent paid for the houses in which they lodge; they avoid overcrowded households; they avoid children only in so far as the children monopolize the available accommodation and they are more common in families whose earnings are above average than in families with low earnings, since the former families can provide the most suitable accommodation. The keeping of lodgers, therefore, can seldom be resorted to as an amelioration for poverty.

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No. 255. Mon. June 12, 1939 -- Earnings and Families

The average earnings of heads of normal families was \$1,211 for 1930-31. This average has a particular significance in that it gives the wages that would accrue to each head if total wages were equally distributed. Obviously they would not enable him to maintain a very high standard of living especially if his family were



large, although he could avoid extreme poverty. The average gives a fair measure of typical wages. The class "\$950 and less than \$1,450" is the modal wage-earning class and includes 26 per cent of all heads of normal families earning 25 per cent of the total wages of heads of normal families. Those who advocate an equable distribution of income for all must regard this class as their ideal.

Children under seven years of age are most numerous in families with heads in the low earnings classes, approximately one-half of the young children of wage-earners belonging in families where the head earned less than \$950. This is obviously because the heads with young children have not yet reached the peak of their earning power and would be most liable to unemployment in 1930-31, a year of extreme depression. On the other hand, children 15 years of age and over per family steadily increase with increasing earnings of heads, indicating that the heads in the earnings classes are older and also that they are able to keep their children at home. Children old enough to work who are living in poor families generally do so while those living in families with heads in the higher earnings classes do not. Evidently the latter only work when they can secure highly remunerative employment since their average earnings are much higher than the average earnings of the former.

It is quite clear that the poor families are a source of supply of cheap adolescent and female labour. Earnings of children living in families with heads in the low earnings classes were almost one-half the earnings of the heads so that they represented a large share of the family income. Evidently the family can cope with the crisis of unemployment better than the individual since the burden can be shared by the several members. It is the family with young children that would appear to suffer most when the head is unemployed. Day nurseries in the large cities are useful in that they relieve the wife of the unemployed man of her maternal duties in order that she may earn.

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No. 256. Tues. June 13, 1939 -- Size of Families

Family size is very closely associated with type of work, outdoor and manual workers having much larger families than white-collar men. This is further proof that man tends to reproduce less and less as his environment becomes more artificial. Occupation measures environment and mode of living. These differ for the white-collar man and the outdoor worker and, in addition, the outdoor occupations are largely confined to the rural districts and the indoor occupations to the large cities.

Urbanization has a more important bearing on family size than social class as measured by occupation. In each case the city family is smallest and the rural family largest. The centralization of industry in large cities and the movement out of small towns is evidently an important cause of declining family size. From a population viewpoint it is not the existence of vast industrial organizations which is to be deplored but their concentration in a few large cities. It cannot be said that people who fail to reproduce themselves are living under satisfactory conditions. The fear of unemployment, the struggle to "keep up with the Joneses," lack of fresh air and freedom of movement and insufficient housing accommodation all tend to inhibit the reproductive instincts of city dwellers.

Railway sectionmen and fishermen have relatively large families in every province while compositors and printers, professional engineers, salesmen, accountants and auditors and clerks have relatively small families. On the other hand, the rankings of miners, cooks and clergymen differ widely between provinces. Since the gradation in family size from province to province is similar for the majority of

occupations it would appear that occupational content does little to account for dispersion in family size between provinces. For example, the small family in British Columbia cannot be accounted for on the basis of occupational content since, for thirty-four of the forty-two occupations, families are smaller in British Columbia than in any other province.

From a consideration of family size for broad occupational groups, it is found that rate of increase varies widely between occupations. Family heads engaged in trade, finance and insurance, professional and personal service and clerical occupations are scarcely reproducing themselves. These groups would appear to include the best and poorest elements of the population. As the population grows they must draw on other occupations for their recruits so that there is a tendency for the increase of those elements of the population of greatest and least economic and social fitness to be cut off. Since it is the average man who is most prolific, the national stock is improving when the greater increase comes from the classes slightly above the average and deteriorating when it comes from those slightly below. In studies of differential fertility it is possible that too much attention is often directed to the extreme classes. A high rate of increase among imbeciles and idiots may create a problem in that their progeny will tax the accommodation of asylums. It does not necessarily follow that it results in racial degeneration of serious import.

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No. 257. Wed. June 14, 1939 -- The Farm Household - 1

Agriculture is the only major industry in which the household has remained the producing unit during the past years of economic change. There has been, however, a continuous decrease in farm self-sufficiency with the result that the farm family has become dependent on outside sources for a growing proportion of its living requirements. It has, therefore, become more susceptible to the vicissitudes and uncertainties of world commerce and this has had an important effect on its size and composition. To the modern farmer, children are a definite liability since he must buy clothing, school books and even some food for them while they are of little assistance in the specialized production of farm products. This is particularly true of the grain farms in Western Canada.

Farm population as distinct from the rural population was counted for the first time in 1931, but the steady drop in the average size of the Canadian rural household since 1871 and other reliable indicators point to a continual decline in the size of the farm household. Changing types of farming in the East and the emphasis placed on production for sale from the very first in the West are the underlying causes of this decline. It might be added that the changes have been greatly facilitated by the development of railway and highway transportation.

The farm family is still self-sufficient in many respects, however, since milch cows, poultry and swine are found on the great majority of farms throughout Canada. It is significant that 51.8 per cent of the Canadian farmers keeping milch cows have only from one to four in milk or in calf. On the basis of percentages of farmers keeping milch cows, sheep, swine, poultry and bees, Quebec and Prince Edward Island farms are the most self-sufficient, and British Columbia farms the least so.

Quebec presents an extremely interesting field for a study of variation in average family size between counties since in fifty-six of the sixty-six counties the population is homogeneous in race, religion and culture. In other provinces the incidence of such factors tends to obscure the importance of economic and physical factors in determining family size. In Quebec, density of population and farming practices differ from county to county, which evidently accounts for the



variation in average size of farm household. Farm households are largest in the counties north east of Quebec city and bordering the St. Lawrence River below it, and smallest in those south of Montreal. This shading off in average household size as one passes from district to district is closely associated with growth of rural population and population density. In those counties where the averages are large the population has been growing steadily, due to the absorption of a large natural increase, while in the counties where they are small the natural increase has been smaller and has emigrated. Increasing density of population acts to make the average smaller since the birth rate decreases, children tend to leave home earlier and eventually the middle-aged population is depleted, leaving a large proportion of old heads with small families.

Population depends on the number of families and their average size. It would appear that as the population in a county approaches an optimum the average size of the families becomes smaller so that population growth ceases. At the same time, the average family may be small in sparsely settled counties.

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No. 258. Thurs. June 15, 1939 -- The Farm Household - 2

The farms in the counties of Quebec with large households are more self-contained than those in counties with smaller households. Permanent and temporary hired labourers are less common on the large-family farms since the farmer can draw on his family for help in the busy seasons.

In Nova Scotia the average farm household is largest in Inverness, Halifax and Cape Breton counties which surround the cities of Sydney and Halifax. In all of the Eastern Provinces the average farm households are generally comparatively large in the counties in the vicinity of the large cities. Due to the ready market for produce, the farm can support more people in these counties. Obviously, increase in farm population in a district often depends on increase in urban population.

The average Acadian farm household is smaller than the French-Canadian farm household in Quebec but the difference would appear to result from economic causes. Farms occupied by Acadians in many cases are so small that large families cannot be supported.

The average farm household is smaller in Ontario than in any of the Eastern Provinces due to the religious and racial content of its population and also to the continual movement of workers to the cities resulting in a depletion of the middle-aged population. Of the farm operators in Ontario in 1931, 26 per cent were 60 years of age or over. The average farm household is largest in Nipissing county and smallest in Kenora county, both of which are in Northern Ontario. The very small average household in Kenora (3.74) reflects the presence of many small new families. It is an example of the newly settled locality where families are small since they are nearly all incomplete and there are many bachelors. The birth rate is high, however.

While the birth rate is high in those counties of Ontario where average farm income is low, children stay at home longest in counties where income is high. In the latter counties the average size of the farm household is increased somewhat by the presence of farm employees.

In 1931 the farm household was larger in Manitoba than in Saskatchewan and Alberta. Manitoba was at the stage of settlement when average household size reached a maximum while Alberta and Saskatchewan had not yet arrived at this stage. The drought did not have any marked effect on the average in the census divisions most affected, indicating that the exodus was one of families rather than of

individuals.

Two factors contribute towards the small average size of the rural household in British Columbia -- only 32 per cent of the households are on farms and the average farm household itself is much smaller than in any of the other provinces. It is the small average size of the farm household in the vicinity of Vancouver and Victoria where one-half of the farms are found that makes the provincial average small.

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No. 259. Fri. June 16, 1939 -- Today's Fish Story - The Lunenburg Fleet

There was a great thrill last evening when the radio announcer at Halifax told us of the arrival of the famous Bluenose and other vessels and many fishermen and their wives from Lunenburg had come along to join in the stirring goodbye to the King and Queen just as they set sail for the Old Land across the Atlantic. For the Lunenburg Fleet is one of Canada's proudest possessions, and the sailor-fishermen there have a reputation all their own. They are mainly descendants of early German settlers and, through the long years, they have represented all that is best in the traits and traditions of the great German people.

These Lunenburg deep sea fishing vessels are sturdy craft, many with auxiliary engine power, and all capable of standing very stormy weather. Ranging in size from seventy tons to more than one hundred and twenty tons, they carry crews from fourteen to twenty-five men. Actual fishing is done from "dories", small, flat-bottomed boats, which when not in use are carried on the vessel's deck. A schooner's complement of dories ranges in number up to, say, ten or twelve. In setting the trawl two men man each dory, which is put overside from the schooner. One man rows while the second pays out the baited trawl. The catch secured, the dory returns to the vessel where the fish are transferred to the larger craft and the long line is re-baited for another set.

In "salt fishing", or making catches for salting and drying, the Lunenburg fleet makes three trips to the banks each year, first the frozen bait trip, then the spring trip, and finally the summer trip. Lunenburg, of course, also occupies an important place in the fresh fish trade, and numbers of its schooners engage in "fresh fishing" as well as in fishing for the dried fish trade.

For the most part, the fleet employs the long line fishing method, though Lunenburg vessels still do some hand line fishing. A long line, or trawl, has attached to it, at intervals of about six feet, a succession of short lines each with a baited hook. Properly baited, this long line carrying its many hooks is placed in the water, buoyed, and anchored at each end, and left "set" for some time. Then it is drawn in and the catch taken from the hooks. Sometimes several of these trawls are tied together, making a set over a mile in length.

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No. 260. Sat. June 17, 1939 -- Canada and Oman

The Sultanate of Oman is a nominally independent State in south-eastern Arabia, extending inland from the Persian Gulf to the Great Desert of Arabia. Its seaboard is nearly 900 miles long, bordering the Persian Gulf, the Gulf of Oman and the Arabian Sea. The area is about 82,000 square miles, or one-fifth that of Ontario, and the population half a million, chiefly Arabs, with a strong Negro element in the coastal regions.



While Oman is nominally an independent state governed by the young Sultan Sayid Said bin Taimur, who is 29 years of age, it is really a dependency of the Government of India. The Sultan resides in India for the greater part of his time and takes no active part in the government of his State.

Muscat, the capital, has a population of 12,500. A seaport on the Gulf of Oman, it has been the scene of many a battle between the Arabs and the Empire-seeking Portuguese. Falling into Portuguese hands in 1508, it remained under their dominance until 1741, when it was recovered by Ahmed bin Sa'id, a descendant of those famous Yemenite Arabs who built up Arabian power in Zanzibar and on the East African Coast. His family has ruled Oman ever since, the present Sultan being a descendant.

Oman was the most powerful state in Arabia during the first part of the 19th century, but numerous raids by nomadic tribes of the interior, as in 1913-14, and the consequent foreign intervention, reduced the country to its present dependent state.

The interior is chiefly mountainous, being part of the ancient land mass of Arabia. The high country extends down to the sea coast in a series of arid rocky heights, or steps of the old mountain blocks. On this account access from the harbours to the interior is very difficult. The valleys between the various steps are often fertile and cultivated, the oasis of Tyin being the most important. The climate is tropical and the vegetation fairly abundant.

The State is best known for its date cultivation which has reached a high level, especially in the fertile, prosperous sea coast tract northwest of Muscat, where date groves extend along it for 100 miles. This strip is known as the Batinah coast. Other crops cultivated include vines, peaches, pomegranates, tamarisks, oleanders, oranges, mangoes and lemons.

The trade of Oman is mainly with India, so that it is impossible to give Canadian exports and imports to and from that State. Their export trade to India is composed of dates, pomegranates and dried fish, while rice, coffee and cotton goods are the chief imports. No doubt we Canadians use many dates which originated in Oman.

There are six principalities on the Persian Gulf not included in the Sultanate of Oman. They are known as Trucial Oman or the Trucial Coast and are administered by local minor chiefs. This was the famous Pirate Coast, which was almost as well known in that respect to navigators as the Algerine coast. However, these principalities on the Pirate Coast are now bound under treaties with the Government of British India for the prevention of piracy and slavery and for the cessation of hostilities at sea.

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No. 261. Sun. June 18, 1939 -- Subject for Thought

During the past two weeks a great deal of attention has been paid in these Facts to The Canadian Family. They are the result of economic study by the Bureau of Statistics of information revealed by the last Census. It is of vast importance that the people of Canada should become acquainted from an authoritative source with their country from this aspect.

Briefly it may be said that the proportion of large families is highest in the rural parts which tends to considerably increase the average children per family

while cities of 30,000 and over have very few large families with the result that the average is small. The distribution of families according to the number of children for the urban 1,000-30,000 group most closely resembles the distribution for all groups, although large families are not so frequent as in the total distribution. The urban-under-1,000 group is featured by a high proportion of childless families and relatively small proportions of families of medium or standard size, a result of the age distribution of the heads. These observations are made after consideration of the data for all Canada but they hold for most of the individual provinces as well. It is obvious, therefore, that the rural and urban distribution of the population has an important bearing on the size distribution and average sizes of families for the whole province.

The age distribution of heads reduces average family size in the Eastern Provinces and increases it in the Western Provinces. The effects of age distribution of heads on average family size are easily apparent but they are small.

Race and religion are also important factors determining average family size. Probably most of the variation in the averages between provinces results from differential racial and religious population content, and so important are these influences that they entirely obscure the incidence of less potent factors.

Population movements, where they have existed to any considerable extent during recent years, affect average family size. An indigenous population has larger families than a moving population. This is because the man who moves into a district to settle often lives alone and does not marry until he is in a position to do so. Since he marries late his family is small even when completed. The small average size of the British Columbia family is associated with the large proportion of the population born outside the province.

Generally, the incidence of population density on family size is obscured by the operation of the above factors. It was observed that population density was instrumental in causing variation in family size in fifty-six Quebec counties in all of which the population was of the same race, religion and culture.

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No. 262. Mon. June 19, 1939 -- Black Widow

The Black Widow is a spider. She is a ferocious creature; she gobbles up her husband when she becomes tired of him. Some other spiders are cannibalistic in the same way, but the Black Widow holds the spotlight as the husband-devourer de luxe.

H. L. Seawans, the Lethbridge entomologist who gained fame last year by winning the coveted Professional Institute Medal for scientific achievement in the public interest, tells us that the Black Widow has been attracting a great deal of attention in southern Alberta in recent years. Sensational articles with somewhat over-exaggerated statements have appeared in magazines and weekly journals. These at times have caused a wave of fear to sweep over the country that almost approached a panic. The Dominion Entomological Laboratory at Lethbridge has received many specimens of the black widow spider from people who were so thoroughly frightened that they would have gone to unnecessary extremes to avoid or control these insects.

Contrary to the age-old superstition and fear that spiders attack people, spiders actually avoid human beings as much as possible and in most cases will not bite even when irritated. The black widow is an exception, not only because it can penetrate the more tender skin but because its venom is very poisonous. The



venom is exceedingly powerful and rapid in its action, but only rarely is the bite fatal to human beings in good health.

The black widow spider is not vicious nor aggressive, and does not voluntarily attack people. It will, however, bite quite readily any person touching its web when egg-sacs are present, and it is defending them. Usually it bites only when irritated. There is no foundation for the popular belief that the spider will spring from its web and attack a passer-by.

According to Dr. Arthur Gibson, the Dominion Entomologist, there is no record of anyone having been bitten by the Black Widow in Canada, although there are numerous records of such in the United States.

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No. 263. Tues. June 20, 1939 -- Southwold Earthwork

We seem as a people to be becoming more historically minded. No more do we look upon the march of the pioneers as the beginning of real events. We are digging into the past as never before, and are coming to realize that the unfolding of the ancient story is a dip into real romance. During the holiday months we visit scenes of events of long ago, in a way we have never done as a people, and learn of them.

One of these scenes is the Southwold Earthwork, located near St. Thomas, Ontario. These aboriginal works, which cover an area of about  $3\frac{1}{2}$  acres, are believed to have been erected by the Attiwandaronk or "Neutral" Indians. When the Attiwandaronks were driven from Ontario by the Iroquois about 1650, this prehistoric earthwork is thought to have been the scene of their last stand against the triumphant Iroquois warriors. Although the Attiwandaronks had been visited by French traders previous to their expulsion, the remains of the earthworks have disclosed nothing that would indicate previous contacts with European civilization.

Canadian archaeologists and officials of the Smithsonian Institute of Washington have declared this Indian fortification to be the only one of its kind in Canada. The site comprises the ruins of a unique double walled fort protected by a double line of earthworks by which it was completely enclosed. The ditch between the walls, locally known as the moat, was formed by the removal of the earth used in building the walls. There is also abundant evidence that these walls were palisaded.

Flint arrowheads and bone needles of the most primitive type unearthed at the site point to an age of hundreds of years, while earthenware, fragments of stone pipes and other articles give an idea of the material culture of the inhabitants. Many scattered broken human bones found in association with those of food animals suggest that ceremonial cannibalism was practised.

Several charred fragments of bones also found are possibly those of captives who had been burnt at the stake. We think of that with horror but, before condemning the Indian for his savagery, we remind ourselves that our own ancestors burned men at the stake in the name of religion, and even today Palefaces are slaughtering women and children in the name of war.

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No. 264. Wed. June 21, 1939 -- Buffalo Meat

One of the novelties which were served the King and Queen when dining on the Royal Train as they travelled across Canada was buffalo steaks. To very many Canadians it is a popular repast, especially to those who like extra novelty and flavour in their meals. No doubt the royal party also liked the meat that was once the principal fare of the Plains Indians and the western pioneers.

Before the prairie lands were cut up into wheat farms and cities, towns and villages sprang up all over the land, the buffalo roamed in great herds. It was the mainstay of the aboriginal inhabitants. But the coming of the white man spelled doom to the buffalo and brought starvation and hardship to many of the nomadic Indians.

Described as the noblest ruminant that ever trod the earth, the buffalo was at one time nearly extinct, but the establishment of herds in Buffalo and Elk Island National Parks saved them from this fate. Today it is necessary to reduce the herds at regular intervals to keep them within the carrying capacity of the park pastures, and from time to time periodic slaughters are carried out by contract under government supervision.

No animal native to Canada has suffered so much persecution, and it was in 1907 that the Canadian Government decided to take action to stop the extermination. Over seven hundred pure-bred buffalo were purchased from the United States and placed in the two national parks. These have increased to many thousands. In fact, a few years ago between six and seven thousand head were shipped to Wood Buffalo Park near Fort Smith, Saskatchewan, so now there are three vast herds.

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No. 265. Thurs. June 22, 1939 -- Two Beaver Pelts

When King George stopped at Winnipeg on his way westward, he received at the historic gates of old Fort Garry a token payment of rent-tribute from the ancient Hudson's Bay Company.

It was not a payment of gold or silver but the ancient fur trade token -- two elk heads and two rare, black beaver pelts, the pick of the catch of northern trappers. In the great northwest of a century ago beaver skins were used by the company as currency in its territories.

The King and Queen were greeted by the governor and Mrs. Ashley Cooper, and then was read "the humble address" of the "Governor and Company of Adventurers of England Trading into Hudson's Bay."

"Under the terms of the charter, granted by His Majesty King Charles II of 1670, it was ordained that we would pay tribute to him by heirs and successors," said the governor. "This tribute was to be rendered whensoever the reigning sovereign should enter into his territory of Rupert's Land.

"We therefore humbly ask Your Majesty to be pleased to accept from us these two elk heads and these two black beaver skins as a token of our historic tribute."

The Canadian national animal, the beaver, is responsible for the exploitation of Canada. It was the rich possibilities of the beaver trade that attracted the gentlemen adventurers. The drive of man's avarice, beautiful furs, sent traders and trappers into the hinterlands. Explorers whose names have honored places in Canada's history had, as the impetus for their intrepid adventuring, the urge of



their countrymen for the skins of the beaver. The vast forests of Eastern and Northern Canada were tramped and tallied, great rivers discovered and mapped, the farming and ranching plains of the Northwest sighted and traversed, all because of the beaver trade.

Naturalists estimate that in its native state the beaver population of North America totalled upwards of ten million animals. Some knowledge of their numbers is gained when it is read that a trapper could capture between four and five hundred of the animals in a single season. And in the busiest years of the fur companies, an aggregate of nearly a quarter million beaver skins were taken annually on this continent.

But today the animal is extinct throughout ninety per cent of its original range, and it is only by strict observation and protection that we can hope to save the remnants of the species. In the national parks every effort is being made to encourage the establishment of colonies, but in the wilds man's greed and thoughtlessness are still decimating the stock. Other than the buffalo, there is no animal native to Canada that has suffered so much destruction.

No. 266. Fri. June 23, 1939 -- Canadian Whaling

The literature of adventure is rich in stories of whaling; and the ships sailing out of Dundee for our northern waters on the Atlantic side of the Dominion used to provide most of the romance. Incidentally many of these old skippers on their journeys learned to like this country and eventually settled in the Dominion with their families. Indeed, some of them entered the Canadian public service and rendered most efficient aid in the development of the Dominion's navigation projects. One of these former Dundee whaling shipmasters died only a year or so ago, Captain G. E. L. Robertson, who became Commissioner of Pilotage.

But today the greatness of the whaling industry has departed from northern waters to southern waters and the Norwegians seem to have taken the place that was once held by the Scots. For these Norwegians are still as great sailors as their Viking ancestors were.

However, whaling is still an important business in our northern waters, even although the corsets of the ladies are not shaped with whalebone ribs any more, but the scene has changed from the east to the west. Our whaling is now done on the Pacific Coast.

At the two plants on Queen Charlotte Islands, whaling was again actively carried on during 1938. Though actually seven fewer whales were taken than in 1937, the catch was a comparatively large one or in all 310 whales. Divided as to species, there were 252 Sperm whales, 50 Finbacks, four Humpbacks and four Sulphur whales.

Because it is a much larger whale and in consequence produces more oil and meal and so brings a better return to the whalers than any of the other species, the Sperm is, of course, most sought after, as the catch figures indicate.

Six steam whaling vessels, three based at Naden, and three at Rose Harbour, operated during the summer and fall. Fog somewhat hampered the whalers, making it difficult at times to locate the big mammals, but in general the season was regarded as successful. Shades of New Bedford and Captain Slocum still stalk on the Pacific Coast and whaling is an active division of the sea industries.

No. 267. Sat. June 24, 1939 -- Canada and British Sudan

The British Sudan is a large territory bounded by Egypt on the north, on the east by the Red Sea, Eritrea and Abyssinia, on the south by Uganda and the Belgian Congo, and on the west by French West Africa and Italian Libya. In area it comes close to one million square miles. It is about one-quarter the size of Canada, the population about six million. It will ever be memorable to British people because of the tragedy which overtook General Gordon at Khartoum. To Canadians it will be specially memorable because of the fact that French-Canadian voyageurs, with the skill of their race in navigating rivers and rapids, were called upon to volunteer for service with the British expedition of relief up the cataracts of the Nile. And magnificent men they were. They made history for Canada. There are over 3,000 miles of the Nile and its tributaries under navigation by a fleet of steamers and barges.

The Sudan is administered by a Governor-General, aided since 1910 by a Council nominated from amongst the officials of the Government. All ordinances and laws are made by the Governor-in-Council. No duties may be levied on imports from Egypt, and duties on imports, with certain exceptions, via the Red Sea ports may not exceed those levied in Egypt. Native administrative officials are employed under the district commissioners. The system of the law administered is "justice, equity and good conscience". The Sudan is garrisoned by native troops, forming the Sudan Defence Force.

Education in the north -- there are two spheres, Northern and Southern -- is mainly in the hands of the Government and ranges from elementary schools to a medical university and law school. Post-secondary schools train young men in agriculture, veterinary science and engineering. The Gordon Memorial College trains natives in Government service and private occupations. There is post-elementary education for the general public. Also there are 44 independent schools. In the Southern sphere the educational system consists of mission schools subsidized and inspected by the Government, along with trades and Normal schools.

The principal grain crop is dura or great millet which is the staple food, and is also used for cattle and poultry elsewhere. Both Egyptian and American-type cotton have been introduced and production is constantly increasing. The Sudan is the chief source of the world's supply of gum arabic, and a very large assortment of tropical and subtropical products is exported. A vast irrigation system has been built.

The chief commodity that Canada got from the Sudan last year was gum arabic, along with some other gums and amber, amounting in value to slightly less than \$30,000. Canada sent about \$325,000 of commodities, the chief item being lumber, some auto tires and a delicacy in the shape of sardines.

No. 268. Sun. June 25, 1939 -- New University Graduates

In some countries there has been a tendency in recent years to overcrowding of the professions, a tendency so serious as to have brought about a special inquiry by the International Institute for Intellectual Co-operation of the League of Nations concerning unemployment of intellectual workers. In Canada there has been an increase of about 50 per cent in the annual number of university graduates since 1923 or 1924, when the abnormalities of enrolment due to the war mainly disappeared, but this increase has been almost entirely in Arts and Science or related Faculties, and not in such professional lines of study as medicine, dentistry, pharmacy, law and theology. The tendency of post-war years and even longer, has been toward a reduction in the proportion of doctors, lawyers and clergymen in the Canadian



population. The potential clientele of the average doctor or lawyer was noticeably larger in 1931 than in earlier censuses, and parishioners per clergyman were one-third more numerous in 1931 than in 1901.

The approximate net number of new university graduates each year has been something like 4,000 men and 1,500 women in the last few years -- about four per cent of the male population at graduating ages, and about one and a half per cent of the female, or approximately three percent of the population as a whole.

The annual number of women graduates has, roughly speaking, doubled in the last fifteen years; the increase in men has been less, proportionately, but this is at least partly due to their numbers fifteen years ago being swelled by returned soldiers whose university training would normally have been taken during the war years.

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No. 269. Mon. June 26, 1939 -- The Klondike

Who is there who has heard of the Yukon who does not desire to visit it; who is there who has read "The Trail of '98" by Robert W. Service, who does not want to see the Klondike and in imagination live over again, so far as he can in these less colourful days, the early times in Dawson. Somehow, the Yukon has captured us, its romance appeals. It does not require even the alluring phrases of Mrs. George Black, the Member of Parliament for that constituency, to stir our interest, for it is an interest that is abiding.

What we want to know particularly is whether or not the Yukon is done as a gold producer. Here is what the Mines and Resources Department says:

Placer gold mining in the unglaciated areas of Yukon shows promise of continuing as an important industry for at least another fifty years. The Klondike district, chief Canadian source of placer gold, and the main field in the unglaciated area, alone contains sufficient proved reserves to keep most of the dredges now operating or under construction in operation for more than fifteen years.

Development along modern engineering lines is showing that the Klondike contains much larger reserves of placer gravels than was formerly regarded as probable, and large areas of probable and possible gravels still remain to be tested. Total placer gold production in Yukon in 1937 was 58,348 fine ounces valued at \$2,042,000, and the total value of all mineral production from the Territory to the end of 1937 is \$215,544,000, of which \$192,500,000 represents the value of gold production.

The resumption of larger scale shipping of silver-lead concentrates and ore from Mayo was the most important mining event of recent years in Yukon. During the summer of 1937 a total of 9,080 tons of concentrates and ore was shipped to smelters in the district. This was exceeded only in 1930.

Exploratory work done in the Carmacks district during 1937 has proved the presence of a large number of quartz veins carrying gold over a considerable area, although as yet the task of proving whether these veins carry workable ore-bodies has not been seriously attempted.

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No. 270. Tues. June 27, 1939 -- Vitamin D and Cacao Shell

Let us have a little chemistry for a change. Possibly we should have more chemistry notes in these Facts than we have, and why we have not is no doubt due to the hesitation a mere layman has to engage in discussions about which he actually knows very little. However, here is some information about one of our Canadian imports from the South Seas which was conveyed to his hearers at Bristol University by Dr. A. Churchman, a distinguished scientist.

He says the Vitamin D potency of milk-chocolate not completely accounted for by the Vitamin D of the milk present, led to the discovery of the fact that cacao nib had a Vitamin D potency of one international unit per gram. This unusual Vitamin D potency in a vegetable product evoked considerable interest and further research showed that cacao shell had at least one-quarter of the Vitamin D content of cod-liver oil.

The value of cacao shell as a feeding-stuff for cows and other animals has also been tested and it was found that the Vitamin D in the cacao shell consumed by cows was largely conveyed to the butter. The feeding of two pounds of cacao shell per cow daily in winter not only led to an increase in the Vitamin D potency of the milk and butter from winter to summer level, but was accompanied by an increase in the fat content of the milk.

From investigations on the origin of Vitamin D in cacao shell it was concluded that the presence of either vitamin D or ergosterol in the fresh shell of the cacao bean was impossible. During the fermentation process, yeast, containing ergosterol, develops in the pulp on the shell and this, during the drying process in the tropical sun, is converted into vitamin D. Hence, vitamin D is absent from artificially-dried cocoa, whereas in the fermented and sun-dried cacao of commerce the vitamin D of the cacao shell is very high;-- twenty or thirty times as potent as in dairy butter.

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No. 271. Wed. June 28, 1939 -- Canoes

There is a more or less popular belief that men, when they become quite old, enter their "second childhood". The visit of the King and Queen brought to light some things that belie the belief. For example, one old gentleman well along in his nineties was introduced to them as a Fenian Raid veteran. There was nothing of "second childhood" in his manner and activity. He was perky -- and proud, of course. So was everybody else. Later he talked over the radio and his performance was a fine example of pep.

The other evening an old gentleman in the middle of his seventies came paddling down the Rideau, with fine long sweeps and fishtailing perfectly. His canoe was of the most modern variety, beautifully painted and varnished. Behind him as he paddled gracefully to his club house, came two young ladies in a birch-bark canoe, built by Indians.

The old gentleman, with a good deal of old-fashioned gallantry, insisted upon taking the birch-bark out of the water and carrying the feather-weight for them into the club house. He chatted with them and he told them that, like him, if they really loved the water, they would get more pleasure out of their canoe than they would out of a fine, swift motorboat or a motor car such as his son owned.

Judging from personal observation only, canoeing seems to be coming back. It is quite common now to see a canoe strapped on the roof of an automobile which is



careering towards some lovely lake or river. No doubt the canoeist is travelling to waters that were inaccessible before the motor car arrived.

But even locally, old craft that have lain on the racks unused for years are being painted up and reconditioned generally, and the young folk who had temporarily forgotten the allure are to be seen on the river instead of the highway. The highways in the main have barred the pedestrian because there are few sidewalks, but there is no such bar to the canoeist on the sparkling water.

The making of the Canadian canoe still goes on apace, and statistics bear out the opinion expressed above, that canoeing is on the rapid increase. In 1937 there were 1,721 built in factories, or about 300 more than in previous years. It is impossible to record the number built in the cellars of our homes on winter evenings, nor those built by pioneers everywhere. We do know definitely, however, that there are more of them than for many years back.

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#### No. 272. Thurs. June 29, 1939 -- A Very Modern Freighter

Clearing from the Port of Montreal last week there sailed away a remarkable ship. She is a vessel of British construction, chartered by a Vancouver firm, and there are only one or two of her kind afloat. She was built specially to carry lumber, and that was the cargo she brought to St. Lawrence ports from British Columbia.

Gone are the days when ordinary trading vessels carried lumber to the ports of the United Kingdom as an incidental cargo, and strapped on their decks alongside the bulwarks were tall poles from Oregon and British Columbia to make masts for the ships that were to trade out of the Clyde, the Mersey, the Tyne and other ship-building centres, to every corner of the globe. Lumber is wanted more than ever in the old lands and even in Eastern America, and vaster cargoes have to be carried than ever before, if the carrying trade is to prosper.

So ships are specially built for the purpose. The freighter that left Montreal last week carried well over four million feet. Her curious name is Nailsea Manor, and she is a vessel of 5,000 tons, a long low craft with very little tophamper.

With vessels like that available the export of British Columbia lumber will be facilitated and improved. More than half of the Canadian production of lumber is in the Pacific Coast province.

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#### No. 273. Fri. June 30, 1939 -- Bills in Circulation

Last year about 54 million new bills were issued to the public by the Bank of Canada, and more than 210 million have been issued since the smaller sized bank bills came into use in 1935.

That gives some idea of the number of bills required to satisfy the commercial needs of a country of over eleven million population.

These bills range in value as follows: \$1, \$2, \$5, \$10, \$20, \$100, \$500 and \$1,000. The authorities keep close track of the hands into which the \$1,000 bills fall. It is the highest denomination issued.

We have practically no gold currency in Canada today and the silver dollar is comparatively rarely used. As a matter of fact our monetary system has fewer units in it than formerly. We used to have a \$4 bill which gave a lot of trouble, for counterfeiters were able to cheat the public sometimes by raising a \$1 bill to a \$4. The \$4 bill became a nuisance.

We used to have more silver coinage also. There was a 20 cent peice which created confusion occasionally. Silver dollars, or "cart wheels", as they were called, were used regularly. However, both our coinage and billage are now more simplified.

A popular bill in years past was the 25 cent denomination. We call them "shin plasters" and know them by that name. They were very handy for mailing, and quite frequently even yet a "shin plaster" will come into the Dominion Bureau of Statistics in a letter to pay for some publication.

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Canada, Statistics, 1939

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DEPARTMENT OF  
TRADE AND COMMERCE



CANADA

**A FACT A DAY ABOUT CANADA**

FROM THE

**DOMINION BUREAU OF STATISTICS**

**JULY 1939**

**FIFTH SERIES**



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James Muir,  
Editor.





from the

Dominion Bureau of Statistics

No. 274. Sat. July 1, 1939 - - July the First

This is Dominion Day. It was on this date in 1867 that the British North America Act, the constitutional legislation of the new dominion, came into force. On that day the population of Canada was about three and a half million; it is now over eleven and a quarter million.

July the first, therefore, is an annual holiday and it is usually an ideal day for an outing. Summer is really with us.

July, being the fifth month of the old Roman year, was first named Quintilis, but Julius Caesar was born in that month and in his honour it was renamed after him. He added an extra day to make it as long as the longest months.

We celebrate Dominion Day in July and the Americans their Inauguration Day on July the Fourth, for it was on that day in 1776 that the United States' Declaration of Independence was adopted. July the Fourteenth is also a great day in France; on that day in 1789 the French Bastille was stormed by a Parisian mob.

The flower of July is the water lily, which suggests that as we paddle or row into quiet coves and bays on our beautiful lakes and streams this month, these lovely flowers will be open to our gaze, nestling upon the calm waters. The birthstone of the month is the ruby.

Famous birthdays in July are those of Samuel de Champlain, Simon Bolivar, Cecil Rhodes, Sir William Blackstone, Robert the Bruce, Rembrandt, George Bernard Shaw, Jean Baptiste Corot, Petrarch, Joshua Reynolds and Thackeray. The British destroyed the Spanish Armada in 1588 and took Gibraltar in 1704 during this month.

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No. 275. Sun. July 2, 1939 - - Hamsters

No, this isn't about pig. It will interest the scientists particularly. It's about a little animal that lives at Macdonald College and devotes her life to her children, which is very proper for mothers. Somebody called her "Horace", which is not a ladylike name, yet Horace she is.

Already her children are much sought after. Some have gone to McGill University, some to Queen's University, some to the Animal Disease Research Laboratory at Hull. For Horace is a golden hamster, and the golden hamster is a laboratory animal par excellence. Time may come when it will replace the familiar guinea pig in the best of laboratories of the country.

Let one who has seen Horace, tell the story. Horace looks exactly like a plump, well-built mouse, except for her fur. Instead of dun gray, it is bright gold.

The Institute of Parasitology at Macdonald has faith in Horace and her children, so hamsters are now being bred there. Most people have never seen a golden hamster; Lord Tweedsmuir is an exception. When he visited Macdonald recently, Horace was presented. It was the first golden hamster His Excellency had ever seen. But that

was not surprising for until five years ago not one scientist in the world had seen a live golden hamster.

Horace can trace her ancestry back, and not very far back, to that hamster family captured just half a decade ago in Syria, when twelve young ones were taken with their mother in a capture that set scientists marvelling. For prior to that discovery only two specimens were known to science - a stuffed skin in a museum in Russia, and a skull in Palestine.

The native habitat of the golden hamster is the desert. There it burrows down twenty feet into the sand, and lets the race of man go by unheeded. That is not because it fears human beings. Taking Horace as a sample, nothing could be further from the truth. Horace is the friendliest animal imaginable, and is quite content to settle in the palm of a human hand and eat peanuts. And the golden hamster has already come to be viewed as a new domesticated animal.

The hamster feeds on peanuts, dog biscuits, mixed grains and milk, and though about the size of a well set-up mouse, can stuff two peanuts, shells and all, into its little mouth at once. The hamster is worthy of note, also, because it is one species in which the females are more to be desired than the males. The lady hamster is bright, alert, intelligent; the gentleman hamster is sleepy, crusty and uncertain.

While breeding of hamsters at the Parasitology at Macdonald is still in its infancy, the work is going ahead, and already the hamster population of Canada is rising. Horace has not only won scientists at Macdonald because she is a good mother, but also because she is an amusing and interesting pet.

#### No. 276. Mon. July 3, 1939 - - Silver Steel

Silver steel is the latest in stainless alloys that the scientists have discovered. If all that is said of it is borne out by experience, it will be very welcome to the men who go down to the sea in ships, for it is said that it resists sea water corrosion.

The new alloy is made by adding a small amount of silver, never more than two per cent, and frequently less than one, to the present stainless steels that contain chromium and nickel.

The precious metal, the announcement explains, goes into solution in stainless steel. It dissolves like sugar in coffee. The silver forms a film of silver chloride on the surface of the steel.

This film is not soluble in water, hence it protects the steel against rust. If the film is knocked off, a new one immediately replaces it, coming from the silver dissolved in the steel.

The new silver alloy, the report states, takes a better polish than usual stainless steels. The silver chloride also is believed to have a toxic effect on living water organisms. For this reason it is hoped that silver steel plates on a vessel will remain either free from barnacles or resistant to them.

The slight quantity of dissolved silver prevents a trouble of numerous stainless steels, which under the touch of a saw or hammer, harden so much and so instantly that further work on the metal is difficult.

So bye and bye we shall probably be hearing about silver-steel in our statistics.



No. 277. Tues. July 4, 1939 - - The Nascopie

There will sail out of the Port of Montreal in a few days the Nascopie, to begin her annual thrilling voyage into Canadian waters of the far North. She goes on a 12,000 mile cruise and will not return to Montreal until some three or four months hence.

Fur trader, Mounted Policeman, Prospector, Missionary, all whose lives call them into the lonely north, welcome the Nascopie's arrival as the red-letter day of their year.

Fur-clad Eskimos look forward eagerly to the steamer's annual call. For Canada's Eskimo population is making increasing use of the mails, officials of the Eastern Arctic patrol report. Letters and messages between widely separated Eskimo families form much of the Nascopie's mail carried from point to point in those Arctic regions. Most of the correspondence between the Eskimos is carried on in the syllabarium which makes use of some sixty phonetic characters and is more adaptable to formation of their words than is the English alphabet. The Nascopie with food, supplies and mail touches at Labrador, Northern Quebec and the Northwest Territories, passes through Hudson Strait into the Bay and visits many a strange port of call before she arrives at "civilization" - Churchill, Manitoba about August 7. Then north into the Arctic, until she reaches Craig Harbour, the Empire's most northerly post office, around August 27. Turning south she visits other outposts, including Pangnirtung, ending her voyage at Montreal at the end of September.

All classes of mail going to or coming from people in the Arctic are handled aboard. Postal facilities in the Arctic area are widely used and last year, it was reported, supplies of stamps had to be increased as previous ones had been depleted before the arrival of the ship. Stamp collectors the world over covet the Arctic cancellation.

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No. 278. Wed. July 5, 1939 - - The Trembling Aspen.

The Indians were in despair. A strange animal seemed to be destroying their crops and drowning their children. The Chief called the young braves from far and near and offered as a reward for the dead body of the loathsome creature, the hand of one of his daughters in marriage. He had two daughters one as fair as the day and the other as dark as the night.

One of the young braves killed the animal and there was great rejoicing all over the land, feasting and dancing in honour of the hero. But he wasn't happy, he could not make up his mind which of the maids he liked the better. So he decided to test their kindness of heart.

He disguised himself as a beggar and came around the tepee. The fair maiden drove him away with harsh words, but the dark one called him back, fed him well and gave him mocassins for his weary feet. The fair one scolded her sister for doing so.

Finally the young brave stood up and revealed himself, offering his love and allegiance to the dark maiden and turning to the fair one he said: "Thou shalt be turned into a poplar tree, the quivering of its leaves shall remind our race of the useless chatter of women".

That is the legend of the quivering aspen. Every Canadian is familiar with its shimmering flutter in the breeze. No other tree does it quite the same with its

leaves when the wind blows. In spring the slender drooping cottons are pleasing to the eye. The fruit ripens in the latter part of May.

Canadian manufacturers find it a very useful wood in making paper. It is found in districts where other trees are scarce and, because it is easily obtained, it is often cut into lumber. The average height of the tree is about 40 feet and sometimes reaches 90 feet. It is valuable as firewood on the Prairies. As lumber, it is very difficult to season and very perishable, but it makes excellent excelsior, boxes and barrels for food-stuffs. In Europe it makes match splints.

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No. 279. Thurs. July 6, 1939 - - The Aftermath

One's thoughts keep travelling back to the wonderful visit of the King and Queen to their domain of Canada and the remarkable things that happened while they were in North America. What the complete aftermath will be no one can foretell, but we do know that the visit will rank as one of the famous pilgrimages of all history, and we also know that no Queen who has lived before her, captured the hearts of her people more securely than did the young Queen Elizabeth.

One incident was quite startling in its significance. King George and his lady entered the United States on the invitation of the President and saw the great possession that was lost to England. Not only did he do so as a distinguished visitor from a foreign country, but he actually laid a wreath upon the tomb of George Washington, the magnificent revolutionary leader who founded a new Empire of the West out of an English colony. No farther did a great reigning sovereign ever travel on the road of goodwill and understanding.

It is strange to reflect that George Washington was more of an Englishman and more representative of the English spirit than was the King George of the revolutionary days. That is the anomaly.

The Washingtons were established near Warton, in the north of Lancashire in the 15th century, and their coat of arms is on the tower of the church of St. Oswald. The tower was built by Robert Washington who died in 1483.

John Washington, who was a Royalist before emigrating to America, had a son Laurence, who married Mildred Warner, grandmother of George Washington the first president of the United States. When her first husband died, she married a Whitehaven merchant, George Gale. She returned to Whitehaven with her husband and died there in 1701, after giving birth to a baby. Mother and child were buried in St. Nicholas churchyard.

The population of the United States is more than ten times that of British North America today and the contribution of the four countries of the British Isles has been enormous.

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No. 280. Fri. July 7, 1939 - - Today's Fish Story - Smelts

Smelts are a delicate and important addition to our sea food, and they mean much to our fishermen of the Maritime Provinces, particularly New Brunswick.

Most people inland are familiar with them. They are small marine fishes of the salmon family, usually seven or eight inches long, but do not exceed twelve inches. They have an elongated body, with a wide cleft mouth and moderate sized



scales. They are of a silvery hue, with an especially silver band along each side, and olive green on the back.

There are three or four of the species. They are very common in Europe, and like the North American smelt, the sparling or spirling of Scotland, they are fond of brackish waters and spawn there.

The smelt is found from New Jersey to the Strait of Belle Isle, and is fished almost everywhere along the Canadian portion of that stretch of coast, but a very large part of the catch is got in a coastal strip of about 25 miles in Northumberland County, New Brunswick, the waters of which, particularly those at the mouth of the Miramichi River, provide the foremost smelt fishery of the world.

The Miramichi River is ideal for the smelt; it is tidal for a distance of over 30 miles from the sea, has a narrow range of tide, three to four feet, and is only about three fathoms deep. Near its mouth it broadens rapidly into a shallow inner bay about 75 square miles in extent and sheltered from the open waters by a series of sandy islands and shoals, extending beyond which is the outer bay, which continues to broaden and to deepen only very gradually towards the sea.

The catch of smelts in Canada varies greatly. Take, however, 1936 as a fairly good year. The total catch was 94,000 cwt. of which New Brunswick contributed no less than 53,000 cwt., according to the Fisheries Branch of the Dominion Bureau of Statistics. The bulk of the smelts is sold in the United States, frozen.

No. 281. Sat. July 8, 1939 - - Canada and Newfoundland

To British people everywhere, but to Canadians in particular, Newfoundland has a special appeal, for it is the oldest British colony, and it was discovered on June 24 by John Cabot, whose name will be associated forever with this Dominion. The first land seen by Cabot was hailed as Prima Vista - the present Cape Bonavista. The island soon became the centre of an extensive fishing industry, with settlements of Portuguese, Biscayans, and French. In 1583 the island was formally occupied by Sir Humphrey Gilbert in the name of Queen Elizabeth and by the Treaty of Utrecht in 1713 the whole island was acknowledged to be British.

Newfoundland is triangular in shape and has an area of 42,750 square miles, or twice the size of Nova Scotia; the population is about 285,000, somewhat more than half that of Canada's Easterly province. The coast is extremely rugged, and the coast regions mountainous, scenes of grandeur and beauty abounding. There is great forest wealth, the climate is salubrious, and the people are a strong, brave, healthy, hardy and industrious race. The temperature seldom goes below zero.

In 1855 Newfoundland was accorded responsible government, but financial difficulties in 1933 made a commission form of government imperative until the island becomes self-supporting again. St. Johns, the capital, has a population with suburbs of 55,000 and is a fine city.

The schools, while denominational, are public schools, mainly supported by the Government but assisted by the religious denominations. The Census of 1935 showed the following denominations: Roman Catholic 92,920, Church of England 92,722, United Church 75,088, Salvation Army 18,049, Presbyterian 1,460.

The inhabitants are chiefly located on the coastline, nearly 10,000 being engaged in fishing - cod in summer and seal in winter and spring. The mercantile

marine consists of over 2,000 sailing vessels and 319 steam and motor vessels.

The principal imports are flour, textiles, hardware and provisions, and the chief exports are cod, seal and seal oil, pulp and paper, herrings, lobsters, seal-skin, and iron pyrites. Canada supplies Newfoundland with most of her imports, the chief from this country being rubber boots and shoes, cattle, meats, preserved milk, wool clothing, paper, machinery, coal, petroleum, and explosives, the whole valued at \$9,389,000 last year. Newfoundland found her chief market in the United Kingdom, United States second, and Canada third; exports to Canada amounting to \$2,596,000.

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No. 282. Sun. July 9, 1939 - - Carillon Museum

Stirring days in Canada's early history are recalled by the Carillon Museum at Carillon, Quebec, which is now open. The conversion of the old Carillon Barracks, built about 1830, into a historical museum has been brought about through the efforts of the Historical Society of Argenteuil County with the assistance of the Dominion Government.

The immediate neighbourhood of the museum is rich in historical associations. It was here in 1660 that Dollard des Ormeaux and sixteen other Frenchmen made a gallant stand for eight days against eight hundred Iroquois. A rough palisade fort is believed to have existed, and although these valiant defenders were killed to the last man, the colony at Montreal was saved. Carillon was named after Carrion du Fresnoy, an officer of the Carignan regiment in 1670.

One of the best preserved examples of military architecture of the period of early British rule in the Province of Quebec, the building is a four-storey structure located at the foot of the Long Sault Rapids on the north bank of the Ottawa River about seventy-five miles from Ottawa. It was erected by General Forbes, himself a veteran of the Napoleonic and Peninsular wars for the accommodation of the Royal Engineers, a military unit detailed to this locality for the construction of the Carillon-Grenville Canal. This canal is said to have been built on the advice of the Duke of Wellington during the troubled years that followed upon the war of 1812, and it is still used in the transit of freight between Montreal and Ottawa. The archives reveal that the barracks building also saw military occupation during the rebellion of 1837-39.

The most revered traditions of the French and English sections of the population of Argenteuil County are centred around the old Carillon Barracks, and its development as a historical museum provides a lasting memorial to the stirring events with which it has been associated.

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No. 283. Mon. July 10, 1939 - - World Famous Herd

An example of what can be accomplished from a modest beginning with a few foundation cows and the continued use of proper sires, modern health regulations, and a strict program of blood-testing for Bang's disease is provided by the world-famous herd of Holstein cattle at the Dominion Experimental Farm, Agassiz, B. C. The starting point of this great herd was on 6th February, 1912, when the bull, Sir Natove Korndyke 13540, bred by J. W. Stewart, Lyn, Ontario, was purchased by W. H. Hicks, Superintendent of the Experimental Farm, at Agassiz. On June 6th of the same year, three fine foundation cows, bred by J. M. Steves of Steveston, B.C., were transferred to the Farm. In 1915 two heifer calves, bred by



Frank Bishop of Duncan, B.C., were added, and at the same time two 2-year-old heifers were secured from a consignment sale from Ontario. These were bred by R.F. Hicks of Newton Brook, Ont., and by W. H. Cherry of Hagersville, Ont. respectively.

These seven foundation cows represented the only female bloodlines incorporated into the Agassiz herd, which, as at present constituted, traces back to five of the foundation cows only, with 73 per cent of the heard from the three Steves cows purchased in 1912. Although a number of bulls bred in the herd were used to advantage at different times, the practice was followed of purchasing sires. As a result of this policy, many honours have been awarded the Agassiz herd. Among other distinctions the Agassiz farm is the only one in Canada to raise and develop two cows, each over 1,250 pounds of butter fat. Considerable publicity was given the herd in 1922 when the Agassiz Segis May Echo won the world's record for fat production with 30,886 pounds of milk and 1,345 pounds of fat. A few years later, Agassiz Pietje Inka Sylvia made the fine record of 29,012 pounds of milk and 1,257 pounds of fat.

Probably, however, the greatest honour to come to the Agassiz Experimental Farm herd was the winning of a Master Breeder's Shield. In a herd of intermediate size, this meant the breeding of 12 XX bulls, 12 Gold Medal cows, and 12 excellent cows. This was accomplished and the shield won at the first annual meeting of the Canadian Holstein-Friesian Association where the honour was conferred.

#### No. 284. Tues. July 11, 1939 - - A Serious Insect Pest

Not only is the warble fly one of the worst insect pests of cattle but it is a destructive enemy of the ancient Canadian art of leather making. Cattle hides comprise the principal material used in the tanning industry of Canada, and approximately 70 per cent of the cattle hides used in the manufacture of leather come originally from Canadian farms. The remainder has to be imported. But for the damage caused by warble flies to the hides, Canadian farmers would be able to supply the entire amount.

The full extent of the losses involved every year through warble fly damage is not generally recognized. As the result of an extensive survey it has been found that at the very minimum 50 per cent of all Canadian hides taken off in one year were damaged by open or healed grub holes, and on this basis Canadian hides were worth \$700,000 less in finished leather than if they had been clear. Owing to control measures now adopted, 70 per cent of the Canadian hides are entirely usable. The total losses in Ontario have been stated to be \$5,000,000 a year, and according to the pamphlet issued by the Dominion Department of Agriculture, "Warble Flies and their Control in Canada", it is estimated that the losses from all causes (damage to hides, injury to cattle from fright and worry, reduction of milk production, and wastage of beef) attributable to warble flies throughout the Dominion are from \$7,000,000 to \$14,000,000 annually and in some seasons may exceed even the latter figure. This pamphlet gives full information on the best way to control the pest.

Two species of warble flies have become widely distributed in many parts of the world, particularly in Europe, North America, and to a less extent in Asia. There are no warble flies in South America, a fact which is not overlooked by the Argentine exporters of cattle hides. Warble flies occur in every part of Canada where live stock is raised. In Canada and in all countries where they are prevalent and abundant, warble flies are one of the worst insect pests of cattle.

No. 285. Wed. July 12, 1939 - - Eskimo Relics

More and more we are becoming acquainted with the early history of Canada, and learning something of the lives and habits of those who peopled the land long before the European settlers arrived, long before the Norsemen travelled south from Hudson Bay.

Of all the aboriginal people, perhaps we know least about the Eskimos, or how far south they dwelt. We think of them mainly as a peaceful race, who lived in igloos, paddled in kayaks, feasting upon the fish of the sea, fond of blubber which warmed their bodies and gave them oil for their lamps. It is the impression we have of those northern residents and we have received that impression from books of travel and adventure.

But there is a good deal more to be learnt about them, and a story carried to newspapers by the Canadian Press a day or two ago, makes clear that the early history of Canada has yet to tell us some interesting things that have not yet been written.

Six ancient lances, believed by authoritative persons to have been carved by Eskimos, have been unearthed at the little hamlet of Havre St. Pierre, on the Saguenay coast, on the Lower St. Lawrence.

The lances, measuring about 20 inches in length and all in perfect condition were dug up by Paul Cormier, a coastal fisherman, in his little garden at Havre. Five of the lances are carved from slate stone, while the sixth was made from quartz.

That shows that the Eskimos either lived farther south than they do now, or that they made forays into the countries of their more southerly neighbours, the Indians.

By the way, the spelling of the name has changed in recent years and the change has been almost universally accepted. We used to spell it with a "qu" instead of an "k". Thus we spoke of the Esquimos or the Esquimaux. Perhaps it will be changed to something else some day.

Possibly the Eskimos were much more populous than they are today, as were the Indians. At the last census the Eskimo population was placed at 5,979.

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No. 286. Thurs. July 13, 1939 - - Testing Scots Pine

An investigation has been begun this year at the Petawawa Forest Experiment Station by the Dominion Forest Service, into the growing of Scots pine in competition with the two native species of pine (red pine and jack pine) which most nearly resemble it. Scots pine has for long held a favourable position in the timber market of the United Kingdom and exports of that species from Norway, Sweden, Finland, and other European wood-exporting countries constitute the main competition for Canadian species of pine.

Scots pine seedlings grown in the nursery at the Petawawa Forest Experiment station have been planted adjacent to equal areas of jack pine and red pine seedlings produced from Canadian seed. The growing conditions are uniform throughout the entire plantation and by means of close observation and periodic remeasurement it will be possible to determine whether or not the exotic species is equal in quantity and quality to wood production.



Scots, red, and jack pine are all adapted for growing on the light sandy soils characteristic of large areas in the Ottawa Valley. These soils are largely unsuitable for agriculture, but excellent for timber production.

Though it will be many years before a final decision can be reached as to the relative merits of the three species, some intimation as to probable rate of growth and resistance to disease and insect attacks will be forthcoming during the progress of the experiment.

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No. 287. Fri. July 14, 1939 - - Today's Fish Story - Rose Fish.

Comparatively few Canadians, especially those who live far from the Atlantic Coast, know there is such a fish as the Rose. We are more familiar with Rose Geraniums. However, there is such a fish and in the last two or three years it has entered into commercial statistics. The Fisheries Department provides us with some very interesting information about the Rose Fish. It is not related to the "Portuguese Man o' War" which is a tropical fish, and we expect bright colours in tropical waters.

Pictures of the Rose Fish give it an appearance like a perch, for it has a large dorsal fin and somewhat the same shape of body. The average size is two or three pounds and it is usually sold commercially in fillets.

Officially it is described as a large marine scorperoid fish which inhabits the northern coasts of Europe and America. It is named *Sebastes Marinus*. When young it is usually mottled with red and dusky brown, but when mature it is a bright red or orange red. Another popular name for it is the Snapper, which is quite suggestive. Of course, it is the bright colour that gives it its name in Canada. Perhaps during these summer holiday evenings in the Maritimes some fortunate reader of these Facts will capture a Rose Fish and boast about it until it looms up as large as a tuna.

The catch is not large, running to over two thousand hundredweight, and therefore, the marketed value to the fishermen runs only into hundreds of dollars. However, by the time it is filleted the value has gone up to three or four thousand.

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No. 288. Sat. July 15, 1939 - - Canada and Syria

We are hearing much about Syria these days, that famous state on the Levant that has been under the mandate of France since the Great War. It embraces an Asia Minor territory of about 60,000 square miles, somewhat larger than our Maritime Provinces, and has a population of three and a half million people, or about the same as that of Ontario.

Syria has had a strange and eventful history. Two thousand years before Christ, it formed part of Aram; later on it was in the Hittite Confederacy, then under Egypt. Subsequently it was annexed by the Assyrians, the Israelites under David and Solomon, Persia, Alexander the Great, the Romans, Byzantines, Saracens, the Crusaders with their Kingdom of Antioch, the Egyptians and the Turks. General Allenby made the last conquest in 1918, assisted by French and Arabs, and when the Great War was ended France was given the mandate over Syria, Lebanon and Cilicia. Cilicia was restored to Turkey by the French in 1922.

The Emir Feisal - son of the ex-King of the Hedjaz and King of Iraq from 1921 to 1933 - had from the outset assumed the administration of the districts of Aleppo, Hama and Hom., which had been assigned as independent Arab districts under an earlier agreement in 1916 between France and Britain and it was intended to allow Feisal to continue, but in 1920 the Syrian Congress at Damascus declared Syria independent, and Feisal was crowned King of Syria. The allied powers did not sanction this and occupied the territory. Feisal left the country and became King of Iraq.

In 1925, following a revolt of the Jebel Druze, rioting took place in Damascus and the city was bombarded by French artillery. Parts of the Azni Palace and the "Street called Straight" were destroyed. The French high commissioner was recalled and public security was practically normal by 1927. In 1930 a new republican constitution for the State of Syria was promulgated.

In 1936, following a prolonged strike and considerable unrest in Damascus and other Syrian towns, a Treaty of Friendship and Alliance with the French Government was signed and Syria becomes an independent republican state at the end of three years, which will be Christmas week of this year.

Damascus, the capital, is an important commercial centre, with a population of 300,000. It contains the Mosque of Ommayedes and the tomb of Saladin and in the south west quarter is the "Gate of God", through which the pilgrimages to Mecca used to pass. Among its industries are metal work and mother-of-pearl inlay, natural silks and cotton stuffs. In the ruins of Roman temples near Baalbek is the largest cut stone in the world (60 x 17 x 14 feet) weighing 15,000 tons.

Canada gets lemons, nuts, linen, handkerchiefs, wooden furniture and carpets. We send rubber tires and upper leather mainly. In all, our trade between the two countries has run from about \$40,000 upwards.

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No. 289. Sun. July 16, 1939 - - Sealskin

Years and years ago, one Sunday morning a little boy sat proudly next his mother at the end of the family pew, while the rest of the family, save another of course, had to sit further away from her. His pride that morning was particularly great because his beautiful mother was arrayed in a real sealskin coat, that fur that is the most desirable to a great many people. The boy slipped his hand fondly into her arm.

The strangeness of that situation was in the fact that that lady was sitting in the manse pew and that she was the best dressed woman in church on that particular morning. Eyes were upon her and tongues wagged afterwards in consultation as to how the minister's wife came into possession of such a wonderful coat. Ministers are not rich in this world's gear, nor expected to be rich, and how it happened that the lady of the manse should acquire such a treasure was the question.

The little incident serves to illustrate one of the differences between the conditions today and two generations ago. In this more regimented age it is more difficult for people with small incomes to secure valuable possessions. Trading methods have changed. In older days the trading vessels, which went to sea under tall masts and snowy canvas, travelled here, there and everywhere in search of cargoes and barter, often away from home for years. Usually the captain was owner or part-owner of the vessel. The crew brought back presents for their kin. In the case of the minister's wife mentioned above, a sailor brother had given her the seal fur. She could never have bought it out of her husband's meagre stipend.



Riches in bygone days seemed to rest more upon possessions than on owning actual money, but today money is more important than it then was as the means of coming into ownership. Having a large family was accounted a rich possession. It is a thought worthy of some meditation and a suggestion as to the ramifications of ownership.

Statistics were not advanced two generations ago as they are now under the Dominion Bureau, but it seems very unlikely that the modern catch of fur seal skins is today as large as it was half a century ago and more. The seal has had to be protected to avoid extermination. Between two and three thousand skins are now considered a good catch in one season.

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No. 290. Mon. July 17, 1939 - - Minnows

All over Canada boys are busy these days capturing minnows wherewith their elders, and they themselves if they are lucky, can go fishing for "bigger fish to fry". The minnow makes good bait for he is just big enough to make a fair mouthful for the kind of fish that men like to catch.

Just like their bigger brothers there are several varieties of minnows, more than of trout even. One of the best known of these is the Blackhead Minnow which is found from Lake Champlain to the Prairie Provinces. It is sometimes called the Bull Minnow. The White Minnow is well known in Manitoba and the Upper Missouri region. The Blunt Nosed Minnow may be captured in Quebec and the St. Lawrence River and sometimes in Manitoba.

The Blackchin Minnow ranges from the St. Lawrence westward and the Straw-coloured Minnow from the Upper St. Lawrence River and the Great Lakes, including the Lake of the Woods, to Manitoba.

Then there is the Spot-tail Minnow which works a great deal of havoc in the Great Lakes, for it is a spawn eater. The Silver-fin, sometimes called the Satin-fin, inhabits the St. Lawrence River and Great Lakes. The Poor Minnow is obtained in the Lake of the Woods and the Prairie Provinces.

The Great Minnow is found in the St. Lawrence, the Great Lakes, Lake of the Woods and the Prairie Provinces and the Rosy-front may be taken in the same waters, although less in the Prairies. The Red-fin is likely to occur in Western Ontario but it is definitely a more southerly fish. The Dusky variety is found in British Columbia but the Falcate is more common there.

What is usually described as the Lake Minnow frequents Lakes Ontario, Erie and Manitoba and the Cutlip is to be found in Lake Ontario and the St. Lawrence. The Mud Minnow ranges from Quebec westward and the Top abounds in ponds and canals.

Of course, most of these minnows may be seen in the smaller rivers and lakes of the country as well but it is impossible to do other than indicate their general location here.

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No. 291. Tues. July 18, 1939 - - Civil Aviation in Canada

Lest we become too puffed up about the progress we have made in aeronautics of late, let us look for a moment at an old record. Here is the story of Henry Tracy Coxwell who died in 1900 at the ripe old age of 81. He was an Englishman. Almost

century ago -- to be exact, 1844 -- he made his first ascent. He was not quit 25. He made his last in 1885 when he was 60.

Henry Coxwell conducted a series of experiments in military aeronautics in Germany and Austria and in 1862 turned his attention to meteorological ballooning, reaching record height of seven miles. He managed the war balloons of the Germans during the Franco-German war of 1870. His autobiography is well worth reading.

However we have been making real progress in Canada with the heavier-than-air machines, and in a military sense at any rate this Dominion has made brave history in the air. Commercially we are selling our aircraft abroad.

Last year, a report from the Bureau of Statistics informs us, there were 23 light aeroplane clubs in Canada and these had 1,240 flying members. That is a great contribution. The civil aircraft of the Dominion made 205,000 flights; they carried student pilots who made over 10,000 flights, while student passengers made nearly 20,000 flights. Paying passengers numbered over 101,000.

A very remarkable thing was that over 21 million pounds of freight were carried, as well as about two million pounds of post office letters and parcels.

In addition to this valuable service our aircraft sketched 13,000 square miles of territory, photographed nearly 60,000 square miles of land and water vertically, and 43,000 obliquely. They performed still another national service by detecting and reporting 368 forest fires.

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#### No. 292. Wed. July 19, 1939 Cooperation by Fishermen

How Cooperation has been organized by Canadian fishermen is illustrated by an example from the Atlantic Coast. Others follow the same general plan, although there may be variations in detail.

Deciding that co-operative action would be helpful, the moving spirits among the fishermen called together all in their district who were interested. Then the group divided the district into four clearly defined zones. Twelve directors were elected, three being chosen from each zone so that all parts of the district might have adequate and equal representation. Then officers were selected -- president, vice-president, secretary-treasurer.

So far, so good, but co-operatives are like all other business undertakings in that they can't run on air. To finance the enterprise each fisherman joining the association agreed to purchase at least three shares at \$10 a share, taking a share a year. Thus, the organization was able to establish its own processing plant, and to make sure that the investment wasn't wiped out if fire chanced to come along the necessary insurance was placed on the property.

Marketing of the output is to be done through the central or Halifax office of the United Maritime Fishermen, the organization set up a few years ago by the commercial fishermen of different parts of the Maritime Provinces and the Magdalen Islands. Co-operative purchase of supplies and equipment for members of the association was also planned.

Co-operative ventures have increased quite rapidly among the Atlantic fishermen in recent years and on the Pacific Coast, too, there are a number of successful undertakings of the same kind. The same basic principles are applied by the co-operative groups on both coasts, although, of course, there are variations in methods according to local conditions, products handled, etc.



No. 293. Thurs. July 20, 1939 - - Ukrainians in Canada

It has been mentioned before, but it seems worthwhile mentioning it again, in view of a remarkable festival which closed in Toronto on Sunday, that the Ukrainians in Canada seem to be a remarkable people. What induces that thought may be of interest to many.

A year or two ago when a survey of the many thousands of letters which reached the Dominion Bureau of Statistics concerning "A Fact a Day" was made, the majority of the inquiries came from the Prairie Provinces. The correspondents were mainly school teachers and of these school teachers the majority bore names which evidently had their origin in Central European countries, and chief of these again were undoubtedly Ukrainian names. The reception of these letters, more than 20,000 of them, gave great pleasure.

So it was of special interest to note that a Canadian-Ukrainian Festival has been held in Toronto and it was an unalloyed success. They sang their folk songs and played their instrumental music. Here is what they said of themselves on the programme:

Seeking economic security a large section of Ukrainian people emigrated to different parts of the world, mainly to North and South America. Many of these people settled in Canada. There are almost a half million Ukrainians scattered over the wide plains of Canada - on the prairies of Manitoba, Saskatchewan, Alberta; working in the factories of Toronto, Hamilton, Montreal, Vancouver, Winnipeg; in the forests of Ontario and British Columbia; in the gold, copper and nickel mines of Northern Ontario; in the coal mines of Alberta and British Columbia; on the railroads - in all spheres of the economic life of Canada participates and labours the Ukrainian worker, farmer, businessman, teacher, doctor, lawyer, mechanic - the builder who helps to construct his new fatherland.

Working in harmony with all other sections of the Canadian population, of which they are an inseparable part, the Ukrainian people, however, are proud of and cherish their rich and cultural heritage. Canada is covered with a wide network of cultural-educational Ukrainian organizations among which stands out the Ukrainian Labor-Farmer Temple Association which has been existing for over 21 years.

The Ukrainian Labor-Farmer Temple Ass'n is a large progressive cultural-educational organization of Ukrainian people in Canada. It has a Dominion charter and its centre is Winnipeg, where live from 18,000 to 20,000 Ukrainians. Its organizational structure is very wide in scope. The main section has 190 branches with over 4,350 members. The Women's Section has 92 branches with 2,200 members. The Junior Section has 70 branches with 2,210 members. The youth, which is organized in the Canadian Ukrainian Youth Federation, co-operates very closely with the ULFTA and is taking part in this Festival. It has 84 branches and 2,800 members.

The membership of this organized section of the Ukrainian people has its own institutions (Ukrainian Labor and Farmer Temples), of which there are 87 all over Canada, built by the voluntary donations of the members and Ukrainian people generally.

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No. 294. Fri. July 21, 1939 - - Today's Fish Story - Horse Mackerel

No fish has received more persistent publicity of recent years than the Horse Mackerel. Yachting magazines are full of pictures of this great game fish, that is beautifully shaped and sometimes weighs half a ton. Special fishing craft have been designed and built for sportsmen who go out to sea to lure them. Special rods are manufactured to hold these monster fish and as no human being could, without help, keep them in leash the butts of the rods are fitted into strong metal sockets in

front of strong swivel chairs. The rods when not in use are kept standing straight up in the air and rigged to the mast; indeed, the rods look like masts themselves.

There are yearly competitions and a prize is given for the largest Horse Mackerel caught. Even the Canadian Broadcasting Corporation has succumbed to the lure of the sport and last year a most excellent story was sent over the air from Nova Scotia by a broadcaster whose lingo smelled of the sea and all its ways, and got us just as excited as he did when the good ship "Bluenose" had the Gloucester boat travelling in her wake.

The Horse Mackerel is any one of several species of the Mackerel family, especially the common or great tunny of the warm seas. By the way, we are getting quite uppity and to show that we have had more schooling than our fathers and grand-fathers, we have begun to latinize a great many of our old fashioned names, so instead of talking about Horse Mackerel or Tunny, we say Tuna. A quarter of a century ago or so that word did not appear in our statistics. Now it is Tuna on the canned fish tins.

The flesh is coarse and oily, but many people regard it as a delicacy. The oil is sometimes used for currying. The little Tunny of the Mediterranean and the Tory finned Tunny or Albacore are smaller species.

In 1936 the commercial catch of Tuna was 4,431 cwt. but this was more than doubled in 1937 and apparently it is on the increase.

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No. 295. Sat. July 22, 1939 - - Canada and Estonia

The Baltic states have been looming large in the world's news of recent months, and especially in the diplomatic talks between Soviet Russia and Great Britain. The most northerly of these small states is Estonia, which was proclaimed an independent republic early in 1918, and so recognized by the Supreme Council of the Allies in 1921.

With an area of 18,632 square miles, Estonia is smaller than Nova Scotia, but it has a population of 1,130,000 of whom 80 per cent are Lutheran and 18 per cent Orthodox Catholics.

The Estonians first appear in history as a warlike race. More than one of the Danish kings made serious attempts to subdue them. In 1219 Waldemar II undertook a crusade against them and founded the town of Revel. He succeeded in conquering the Northern Estonians, but revolt followed revolt incessantly until in 1346 Waldemar IV sold the north to the Knights of the Sword, the German crusaders who had gained possession of the South of Estonia. For 600 years the Estonians were practically serfs to German landowners.

However, in 1521 the nobles and cities of Estonia voluntarily placed themselves under the protection of the Crown of Sweden, but after the wars of Charles XII, Estonia was ceded to his victorious rival, Peter the Great. Serfdom was abolished by Czar Alexander I in 1817 but the condition of the peasants was so little improved that they rose in revolt many times in the 19th century. After 1881 the Russian Government endeavoured to russify the inhabitants of the province by severe and repressive measures.

The Russian provincial government of 1917 united the northern district of Livonia, which was inhabited by Estonians to Estonia and the Diet of the same year was preparing an autonomy bill when the Bolshevist rising changed the course of events.



The Diet declared its complete local independence. However, the Bolshevists dissolved the Diet. The fact that Revel was the Russian sea base and lay exposed to the fire of Russian ships, made it expedient to avoid conflict.

The Baltic nobility of Estonia, making their stand on a 1721 treaty, declared themselves the authorized representatives of the country and invoked the aid of German troops. The Diet, however, well aware of the scheme for German colonization and complete denationalization, decided to declare the independence of Estonia.

Peace proposals were made to Russia and accepted. Russia agreed to recognize the independence of Estonia and pay \$7,500,000 from the Russian gold fund, but refused to return the funds, savings and money which had been removed. On the other hand, Estonia was relieved of any responsibility for Russia's debts abroad. It was the first peace treaty concluded by Russia with her border states.

Estonia's exports have grown from 22,879,000 kronin in 1921 to 83,191,000 in 1936. Her exports to Canada last year totalled about \$28,000, consisting mainly of rubber substitute and soda compounds. Canada's exports to Estonia were less than \$2,000 or less than half those of the previous year, and they were chiefly farm implements.

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No. 296. Sun. July 23, 1939 - - Sir John Rae

It was on July 23, 1893, that Sir John Rae one of the most notable figures in the history of the Canadian northland, died in England. He was a surgeon in the Hudson's Bay Company for many years.

The ships of Sir John Franklin had been last seen in Baffin Bay in 1845 and for ten years Dr. Rae had been resident surgeon at Moose Factory. The following year he was sent on his first journey of exploration, which resulted in the survey of the shores of Committee Bay.

In 1847 he joined the first land expedition in search of Sir John Franklin. That expedition was under the command of Sir John Richardson. It was unsuccessful. In 1851 he undertook another search for Franklin, in the course of which he covered 5,380 miles, 700 of which were newly discovered coast line.

On his return to England he proposed yet another expedition in search of Franklin, and in 1853 again set out. This expedition was successful the next year in discovering Franklin's fate and in winning the \$50,000 award which had been offered. His narratives of his travels in search of Franklin are a valuable contribution to the story of the North.

Sir John Rae was a native of Strowness in the Orkney Islands and a graduate in medicine at Toronto University. He was 41 when he solved the mystery of Franklin's fate and he died in London at the age of 81.

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No. 297. Mon. July 24, 1939 - - Trout with Missing Fins

Holidaying in the Maritime Provinces this summer and fall, an angler may capture a trout with a missing fin. Perhaps more than one fin may be awanting. The finder is asked to report the capture to the Fish Culture Branch at Ottawa.

Trout marked by the removal of certain fins are distributed in various stages of their growth in the Maritime Provinces as one move in the department's programme for obtaining information as to the life and travel habits of this species.

Perhaps you will take a fish with its right pectoral, or front fin on the lower part of the fish next the gills, and the adipose, or fatty fin on the back of the fish near the tail, both missing. This is one way in which the fish are marked. Or it may be the adipose fin and the left pectoral that is missing. Another fish may have the right ventral or in other words the right fin of the second pair of fins counting from the gills, and the adipose fin missing. Or again it may be the left ventral and adipose fins that are gone, for all four ways are used to mark various fish.

Everybody who captures any of these fish is urged to do his bit in making better trout fishing by reporting the recaptures to the Department of Fisheries at Ottawa, or to the department's local fisheries officer in the particular district where the fishing was done. The information will be most useful in assisting the Fish Culture Branch in determining the results of fish planting for the markings will show just where the fish was raised and when it was released in the particular water system, in case a careful record is kept of the planting of all marked fish.

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No. 298. Tues. July 25, 1939 - - Grain to the United Kingdom

What is done with the huge quantities of grain imported by the United Kingdom, which has only about four times the population of Canada is worth more than a passing thought and one of our trade commissioners supplies the answer. He says:

Importations are on a tremendous scale, and for such diverse purposes that it is impossible to segregate the quantity destined for any one use. Imports of wheat total over 100 million cwts. (of 112 pounds) valued at more than \$200,000,000 annually. Barley imports exceed 18 million valued at some \$30,000,000. Imports of oats, even in recent years, amount to upwards of 2,000,000 cwts. valued at about \$3,000,000 a year; and maize imports total 70,000,000 cwts. valued at over \$80,000,000.

This tremendous volume of grain, of course, is primarily intended as food for human consumption; but in its preparation large quantities of by-products are derived. These find their principal market as feedstuffs for animals, being used either as they come from the mill or blended with other feeds. In addition to the grain imported there is, of course, a large domestic production of grain. The latter is consumed as food and feed and gives rise to an even greater proportion of feed than does the imported grain, due to the screenings.

Wheat in the grain is not used for feeding to anywhere near the same degree as it is in Canada. It is too expensive in comparison with other equally efficient foods. Oats are largely used, their well-balanced composition making them suitable and safe for most animals and their cost being within the limits of many buyers. Although usually regarded as less suitable for hogs than other grain because of their high fibre content and because cheaper foods serve as well or better, oats when ground have given satisfactory results in the rations of bacon hogs. Feeding barley has been found especially suitable for feeding hogs and is used mostly for that purpose. It is also used occasionally for horses and, mixed with cotton or other cake rich in protein, has been found excellent for sheep. Maize finds many industrial uses but it is also a valuable feedstuff. Buckwheat is used in very small amounts.

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No. 299. Wed. July 26, 1939 - - Whales

We are told that there is to be manufacture of whale products in Canada this year and the reason given is that unfavourable market conditions prevail. In the face of these conditions, both ~~the~~ British Columbia whaling stations, one at Naden Harbour in the Queen Charlotte Islands and the other at Rose Harbour, are temporarily suspending operations. Ordinarily, they would be at work for about four months - roughly June to September.

Sustaining the claim that sometimes the female of the species is bigger than the male, whether more deadly or not, an 80 foot female Sulphur whale headed the list for size in the 1938 British Columbia whaling records. Sulphur whales, as represented by a 76-foot female, likewise topped the size list in 1937 but while the record whale in that year was the lone member of her species to be taken three male Sulphurs were included in the 1938 kill. One of the three measured 73 feet from tip to toe, so to speak, and the other two were 71 feet each. Next in size in 1938 came a 66-foot Finback, also a female as it happened. The majority of the whales taken, however, were males.

All told, 310 of the big fellows were captured last year by the Canadian whalers operating off British Columbia, the only area of the Dominion where whaling is carried on. Out of the total number, 252 were Sperms, 50 were Finbacks and the remaining eight were divided equally between the Sulphur and Humpback groups. Total catch in the preceding year was 317 and then, too, the Sperms made up most of the landings.

All of the whales landed at the two British Columbia stations were used in the manufacture of meal, oil and fertilizer. The '38 production of meal was 273 tons, of oil 543,378 gallons, and fertilizer 490 tons. In 1937 the output was 268 tons of meal, 527 tons of fertilizer and 662,355 gallons of oil.

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No. 300. Thurs. July 27, 1939 - - Salt Marshes of Acadia

It was 333 years ago today, in 1606, that a ship arrived at Port Royal, Nova Scotia, with a large party of colonists from France. Here on the "Grand Pré" ( the only natural clearing in the dense forest stretching then from Cape Breton to the undiscovered western prairies) they established the oldest white settlement north of Florida, which proved to be the cradle of agriculture and milling in Canada.

The salt marshes of Acadia, needing no clearing, were especially attractive to these men from the mouth of the Loire, whose fathers had reclaimed and dyked such lands for generations. Through their efforts the "land of Evangeline", immortalized in Longfellow's epic poem, became the most fertile and highly prized farming district of Nova Scotia and, no doubt, will continue to be so for many centuries. To control the salt tides sweeping over this area of 15,000 acres, the French Acadians built the first dykes in 1636, and by 1670 had completely reclaimed the marshes, which they occupied until 1755. After a period of five years, they were again used by Acadians who had returned to this district and by settlers from New England.

Some dyke lands are known positively to have been cultivated for 75 years with no renovation and probably from 100 to 150 years before that. If degenerated by over cropping, bog growth or neglect of drainage, they are easily regenerated; the dykes are broken at convenient places and the tide allowed to flow in at will. The salt water kills bog vegetation at once and in two or three years the entire marsh surface is covered with a thick layer of new mud. The dykes are then rebuilt, ditches are opened, and in two to four years the land is again bearing rich English hay and other valuable crops. Cattle fattened on these rich pastures for export overseas arrive on

the English market in prime condition, losing no weight on the ocean voyage. For sheep as well as for beef and dairy cattle, the marsh lands provide ideal pasturage. Flax, red, alsike and white clover, and several varieties of hardy alfalfa grow abundantly.

To Evangeline's descendants for many generations as to her ancestors, the tides of Nova Scotia have provided a great bounty - the salt marsh country of Acadia.

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No. 301. Fri. July 28, 1939 - - Today's Fish Story - Crabs

The Walking Crab, as he makes his little pilgrimages sideways over the sands and rocks of the seashore or below low water mark, is not a very inviting looking morsel. Nor is he. The Blue Crab is the crab of commerce.

We are fond of crabs in Canada and we import more than a million and a quarter pounds of crabs, shrimps and clams annually. Most of these Blue Crabs come from the coastline of the United States, from Cape Cod to Florida. They come canned. We find edible crabs in the sea waters of Canada also, but not in large quantities. The harvest usually runs about 8,000 cwt. Most of them are sold fresh and less than one-quarter canned, but the market price of the canned crab brings more than half of the revenue. The great majority of the catch is taken in British Columbia.

There are several kinds of crabs, and it is a name given generally to the ten-legged crustacea. They periodically cast their shells. The moults occur most frequently in youth when growth is rapid and the armature soon becomes too small. The new shell begins to form within the old, and finally with considerable, and sometimes fatal effort, the shell is cast.

The Blue Crab is often taken immediately after moulting, before the new shell has hardened, when it is known as the soft-shelled crab.

Crabs are generally scavengers, but the land species are also vegetarian in diet. They are very active, great fighters and often wily in averting danger. From the time they leave the egg until they reach adult form they pass through various complete metamorphoses. Crabs move sideways instead of forward, often with great rapidity. They vary greatly in size and colour, green, blue and gray being the most common.

They are of economic importance as a food in many parts of the world and are taken in wicker traps baited with meat, or in shallow nets of coarse material, baited and hauled up at short intervals.

Amongst the named varieties are the Blue, Swimming, Walking, Fiddler, Spider, Oyster and Hermit.

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No. 302. Sat. July 29, 1939 - - Canada and Latvia

Lettish tribes, racially akin to the Lithuanians, inhabited the territory now called Latvia since the tenth century, but were neither the sole nor the oldest inhabitants and there was no cohesion between them. Hence they became a subject people who from 1158 to 1918 endured four distinct periods of foreign domination - first by pure German rule from 1158 to 1562 under the Knights of the Teutonic Order and the Prince-Bishops, now in alliance, now in feud, with the Knights.



There were two states at that time, Courland and Livonia. Polish rule lasted from 1562 to 1795; Swedish rule from 1629 to 1721 in Livonia only and Russian rule until 1918. Throughout this time, the cultural superiority of the Germans remained unchallenged, the Teutonic Knights and their descendants, the Hanseatic merchants and their successors being the privileged representatives of the public power and overlords on the land. The Letts, on the other hand, being serfs, obtained personal freedom only in Russian times. Even then, as cultivators, they remained small holders dependent upon the big landowners, mostly of German extraction. This inequality before the law survived even after the liberation.

From about 1860 onwards, the Letts through associations of their own, which met with the support of an active and alert press, encouraged Lettish enterprise in parochial and municipal affairs; Lettish cooperations and savings banks; Lettish gatherings for the propagation of folk-lore and song. By this means a level of education and economic standard was reached which placed the Letts of Courland and Livonia far ahead of the Russian peasantry and out of it arose during the insurrectionary movement of 1905 the idea of independence or at least of autonomy.

That opportunity came during the World War. Lettish national units were formed within the Russian army and fought gallantly, but independence received a severe blow when these units, largely under Bolshevik propaganda, turned against it. The Baltic Landwehr, a territorial force with pro-German leanings and commanded by Col. Alexander, a British officer, restored order. Red rule came to an end after only a few months. The Latvian Republic was solemnly proclaimed on November 18, 1918, but the ruin of a formerly prosperous agricultural country had been almost hopelessly carried out.

The area is 25,000 square miles, almost as large as New Brunswick and the population two millions. The constitution is that of a democratic republic, with universal suffrage and proportional representation. Riga, the capital, is a city of 385,000 people.

Canada's trade with Latvia direct, was over \$180,000 last year. We get fishery products and rennet mainly and we send copper chiefly, as well as some iron and rubber manufactures.

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No. 303. Sun. July 30, 1939 - - Blind Defenders

Because of their hearing is keener, blind Italian volunteers are going to be accepted for the anti-aircraft defence corps, according to a bill that has just been tabled in the Chamber at Rome. They will be used at the "aerophones" which detect a plane's approach by the noise of its motors.

Exhaustive tests have been made, it is stated, and the results have proved the aptitude of the blind for that particular work.

The Institutional Branch of the Dominion Bureau of Statistics confirms the view held generally that the senses left to persons bereft of one or more are usually more acute than in persons endowed with all senses. A blind person has keener hearing and a more sensitive touch. Only the other day the Press recorded the story of a Canadian family, all blind, operating a farm successfully.

At the last census in 1931 there were 7,343 blind in Canada, of whom 4,106 were males and 3,237 females. There were 47 under five years of age and 1,423 over eighty. By Provinces the numbers were: Prince Edward Island 82, Nova Scotia 749, New Brunswick 374, Quebec 2,295, Ontario 2,309, Manitoba 461, Saskatchewan 386, Alberta 237, British Columbia 450.

Educational facilities for the blind are provided by all provinces and perhaps the institution at Brantford, Ontario, may give a general idea of what is being accomplished. There the pupils are taught the regular high school subjects as well as games, gymnastics and eurhythmics. Brantford won the challenge cup at the international field and track meet for the blind at New York. Pupils from Brantford make remarkable records in the Toronto Conservatory of Music examinations.

There is an industrial shop, where the blind are taught chair caning, pith seating of chairs, rubber mat making, fundamentals in reed work, use of tools in wood work, flower basket making, furniture and all sorts of things.

No. 304. Mon. July 31, 1939 - Remarkable Control of Childhood Diseases

Extraordinary and highly encouraging results have been achieved by the battle in Canada to control the four principal communicable diseases of childhood. An analysis of figures secured from the records of the Dominion Bureau of Statistics by the Division of Epidemiology of the Department of Pensions and National Health has just now been released. It shows that in the eight provinces included in the Vital Statistics Registration Area of 1921 the deaths per 100,000 population from the four diseases of measles, scarlet fever, whooping cough and diphtheria combined have been reduced so definitely that the death rate in 1938 from these four diseases was only 17.5 per cent of the rate in 1921.

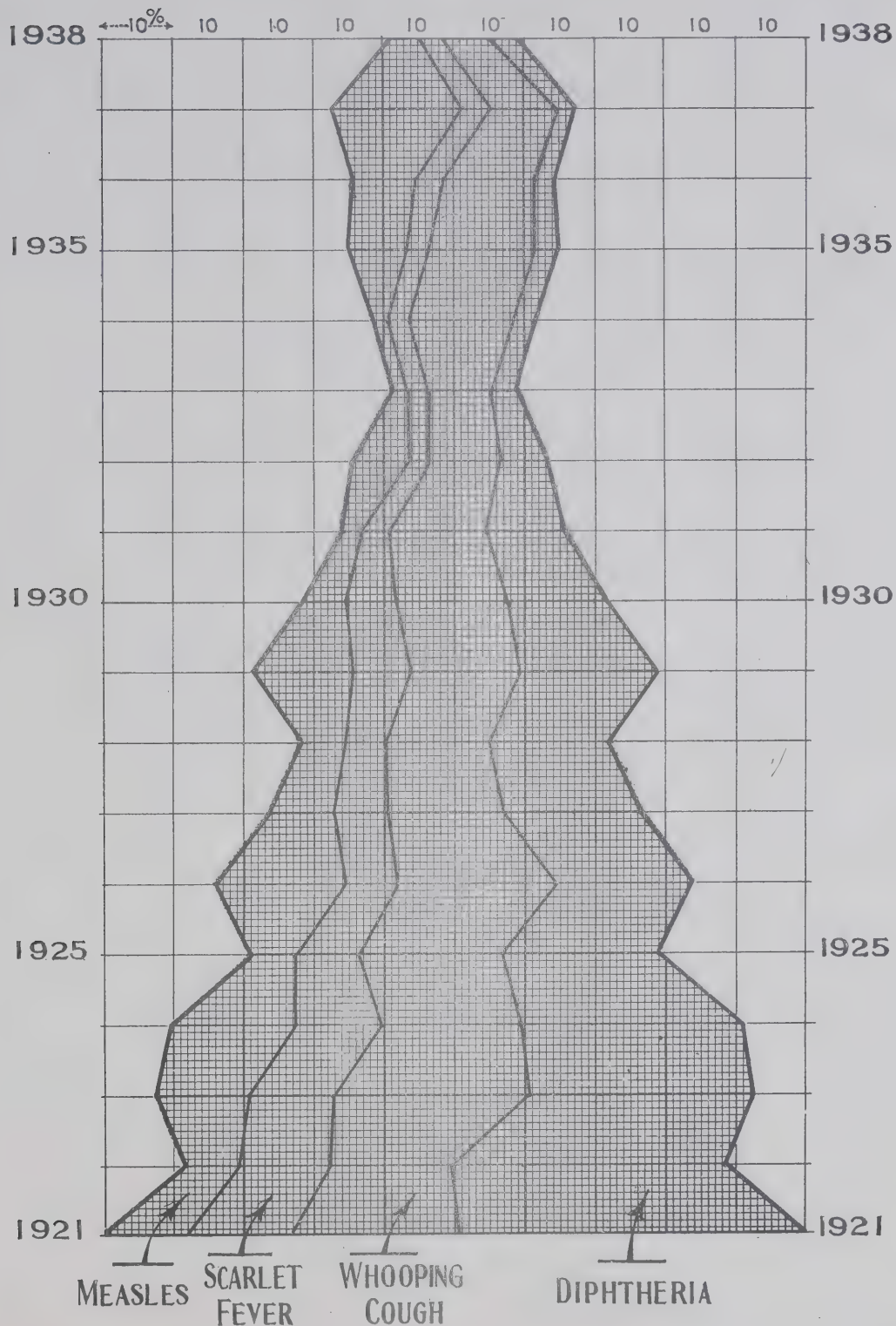
The most serious of these four childhood diseases was diphtheria; in 1921 it accounted for 49.3 per cent or almost half the mortality from all four. In the following years diphtheria has gradually improved its relative position until during recent years it has assumed the position of least importance. It is also the disease which has largely contributed to the great decrease in the four combined. This fact is a striking proof of the efficacy of the weapons used to suppress this disease. Antitoxin, which was convincingly demonstrated to be a curative agent as long ago as 1895 and diphtheria toxoid, a preventive agent, began to be used widely about 1921.

The accompanying chart shows better than words or statistics exactly what has taken place in furthering the fight that is everywhere in progress to save the young and promising element of the population.

The National System of compiling and publishing Vital Statistics was commenced in Canada in 1920, but the first detailed report was for 1921. At the commencement, only eight provinces were embraced in the system, the province of Quebec continuing to compile its vital statistics independently, but Quebec entered the National System as from January 1st, 1926. The eight provinces for which comparisons on a uniform basis can be carried back to 1921 are designated collectively "The Registration Area as of 1921". Quebec, therefore, was not included in this analysis.



**CRUDE ANNUAL DEATH RATES PER 100,000**  
 EXPRESSED AS  
**PERCENTAGES OF THE CORRESPONDING RATES IN 1921\***  
 OF  
**FOUR PRINCIPAL COMMUNICABLE DISEASES OF CHILDHOOD**  
 (Measles, Scarlet Fever, Whooping Cough, Diphtheria)  
 1921-1938



\* Registration Area of 1921: Canada, exclusive of the Province of Quebec, North West Territories and Yukon.











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DEPARTMENT OF  
TRADE AND COMMERCE



**A FACT A DAY ABOUT CANADA**

FROM THE

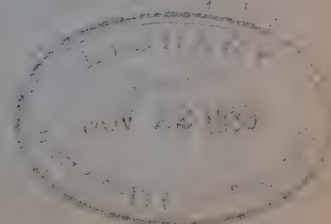
**DOMINION BUREAU OF STATISTICS**

**AUGUST 1939**

**FIFTH SERIES**

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James Muir,  
Editor.



from the

Dominion Bureau of Statistics

No. 305. Tues. August 1, 1939 --- The Month of August

August is one of our fine summer months in Canada. It is a holiday month favoured by many people. It is a month of gold and purple out of doors.

August was named for the great Roman emperor, Caesar Augustus who, not to be outdone by Julius Caesar, took a day out of February and added it so that his month would have as many days as the month that was named after Julius.

The flower of August is the poppy and the birthstone is the moonstone.

But the month of August brings sad memories. Twenty-five years ago the Great War broke out in Europe, Belgium was invaded and the civilized world learned the horrors of armed conflict. Sixty thousand brave Canadian citizen soldiers died and untold suffering ensued.

There were other events, however, of a more pleasant memory. Columbus started on his first voyage in 1492, the bill for the Union of South Africa was passed by the British Parliament in 1909 and the Panama Canal was opened to world commerce in 1914. These events were significant in the progress of the human race.

Famous birthdays in August included those of Saint Augustine, Napoleon Bonaparte, Sir Walter Scott, Thomas DeQuincey, Shelley, Tennyson, Isaac Walton, Goethe, Caxton, Gainsborough, Wilberforce, John Locke, and our own Ernest Thompson Seton.

It was on August the first in 1673 that Frontenac and Perrot, Governor of Montreal, had their historic quarrel. Frontenac, arriving from the west, found that Perrot was a grafter, had him arrested and sent to France to answer for his crimes. Perrot was imprisoned in the Bastille, returning to Montreal on his release, where he was governor until 1684.

That year he was transferred to Acadia as governor, two years later was dismissed and ordered to return to France. He refused, remaining in Acadia as a trader. Eventually he disappeared and no trace of him was ever found. Whether he was murdered, or whether he went south with some of his booty, is one of the mysteries of history.

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No. 306. Wed. August 2, 1939 --- Clansmen Gather

One day last week the portal to the culture and tradition of Old Scotland was opened in New Scotland when Premier Angus L. Macdonald of Nova Scotia pulled the latch string at the door of a log cabin in the village of St. Ann's in the Cape Breton highlands.

The simple structure, built to house the first Gaelic college in North America, was dedicated by the Premier to its purpose of propagating the ideas and ideals of the hardy Scottish pioneers who came here a century ago. The opening took place amid colorful surroundings.

It was a gathering of the clans in Cape Breton. Many of the more than 2,000 people who gathered on the hill overlooking blue St. Ann's Bay were of the Macdonald, Mackenzie and Mackinnon families whose ancestors hewed a civilization out of the rugged Cape Breton hills.

The day was unique in the history of Cape Breton Scots. The first annual Gaelic Mod was held in conjunction with the opening ceremony. Pipers vied with one another in piping contests, boys and girls in kilts danced the Highland fling, the sword dance and the reel, and Gaelic choirs sang the old songs of the Hebrides.

The Premier, himself of Scottish origin, bade his hearers look to the Scottish virtues of veneration of religion, love of education, and a deep sense of loyalty to family, clan, chief and king.

He spoke in Gaelic first, then in English. Led by a piper to the platform where he spoke, Premier Macdonald appeared in a kilt of the Clanranald tartan.

"We live in a time," he said, "when much of what was old and cherished is being questioned and doubted, but it seems to me that there are a few matters which should be beyond dispute. The value of the great Scottish virtues, of honest pride, of self reliance, of independence of spirit, of a deep religious sense, of love of education -- surely these are beyond all doubt.

"Particularly in these days is there need for the Scottish spirit of independence and self reliance. It is a time when a great many people are seeking the easy way..... the tendency of many people is to lean on somebody else in these days. That has never been the spirit of Scotland.

"If we lose that independence of mind and that self reliance which ought to be ours we shall be easy victims of every new theory of government that is advanced. We shall be an easy prey to the dictator. We shall lose that democracy which no people in the world have defended and maintained more vigorously than the people of Scotland."

A museum containing relics of the Celtic pioneers, in the same building, was opened by Highways Minister A. S. MacMillan, also of Scottish origin. Ancient implements with which the pioneers tilled the rugged hillsides are on exhibit there. Candle moulds, wool combs and spinning wheels, tools of the household industries, are in the museum.

The little college which its sponsor, the Cape Breton Island Gaelic Foundation, hopes will grow into a permanent seat of Celtic learning stands on historic ground. It occupies the site of the homestead of Rev. Norman MacLeod, who led a band of Scots here in 1818. In the surrounding hills and glens members of his flock settled.

Gaelic is a common language in Cape Breton where the population is predominantly of Scottish origin. But there is much Gaelic spoken elsewhere throughout Canada. In Inverness county, Nova Scotia, alone, there are 10,000 people who speak the language of the Highlander and there are more than 60,000 others elsewhere in Canada.

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No. 307. Thurs. August 3, 1939 -- Vital Statistics

Vital statistics have been described as "a system of the accounting for human life," and is comparable with the ledger account of any business. The system and its



work is an important branch of the Dominion Bureau of Statistics. Operating in conjunction with the provinces it measures the size of the population between the decennial censuses, the trend of the birth and death rates, the ages of the inhabitants and the chief causes which terminated the lives of those who have passed on.

No better description of the value to the people of a Vital Statistics organization can be furnished than the following excerpt from an article written by Miss H. R. Parker of the British Columbia Division. She says:

We find that this Division not only receives registrations of births, deaths and marriages, the three most "vital" happenings in an individual's life, but also keeps records of the adoptions of children and divorces which are related as far as possible to existing records. As one becomes acquainted with the dozens of requests each day for certificates, the records cease to be mere sheets in a binder. Each tells its own story. To the person concerned, his birth and marriage certificates are precious documents establishing the facts therein contained. His birth certificate demonstrates his right to be called a citizen of British Columbia entitling him to the privileges appertaining thereto. It proves his age for many purposes too numerous to mention here. Do you know that if a person's birth has not been registered, through no fault of his own, he may be unable to establish his rights to any of these privileges. He may even find himself without a homeland. The Division has come in contact with many cases where, as no living relatives or witnesses of the event were to be found who could give accurate information, only diligent searching on its part has resulted in the registration being eventually filed. Over and over again the Division is called upon to assist some person in the search of some evidence which will confirm the date and place of his birth. Many agencies are used in this work of definitely establishing such an event before the record can be placed on file.

Take the case of a British Columbia family whose unfortunate position recently came to our attention. Three children of Mr. and Mrs. "B", born in 1866, 1868 and 1869 respectively, had not been registered. A fourth, born in 1867, had at some time obtained a birth certificate from Victoria. Some years after the death of their parents they were called upon to prove their ages in order to share in the division of the estate. No one could be traced who had any knowledge of the events. Their chances for establishing their claims to the inheritances looked rather dark. The Division therefore tried its utmost to find some clue which would give sufficient evidence to place the registrations on file. A search was made in the Provincial Library where reference was made to the British Columbia Directories of the years 1866 and 1869 and also to the newspapers of that time. Apparently Mr. "B" had been prominent in the fur-trading business in those years. His advertisements were found in the old Victoria papers and mention was frequently made of the family name. Thus it was definitely proven that the domicile of the parents was Victoria. After diligent searching we also found a record of the parents' marriage in one of the old newspapers which gave a good clue as to the approximate dates of their children's births. Upon due consideration of these facts, and of the fact that one child had been previously registered, it was considered by the Registrar that enough evidence was on file to warrant registration and the issuance of birth certificates which would establish their claims.

It may be seen from this one instance, and there are many more, that the Division does not look upon its work as mere "records" but spares no effort to try to assist its clients, the people of British Columbia, in a way out of their difficulties. Extreme caution, however, is exercised to guard against the accepting of fraudulent registrations in order that B. C. certificates may maintain the high standard they have always held.

No. 308. Fri. August 4, 1939 --- Today's Fish Story -- Lumpfish

An interesting and unusual addition to our fish food is the Lumpfish. Although popular in European markets it is little known to the general Canadian public, this no doubt due to our ample supply of other varieties of prime quality.

Sometimes it is called the "lumpsucker" because of its habit of clinging to stones or other objects by means of a sucker formed on the under side of the chest by a singular modification of the ventral fins. A crest-like hump on its head resembling the comb of a fowl, gives the fish another set of aliases in Scotland and the north of England, where it is known as the paddlecock, paidle-cock and so forth. In some districts it is known as the sea owl.

In France the lumpfish becomes "poule d'eau" or water hen, and in Acadian districts of Nova Scotia this name modifies itself into "poule-de-mer" or sea hen. Along the coasts of Chaleur bay and Miramichi bay the name has been shortened to "henfish".

As described by a Canadian scientist the lumpfish has its own peculiarities. Its head is short and very blunt and the pectoral and tail fins are large with wide bases. Teeth are numerous but weak. The body is somewhat tadpole-like in shape. Instead of scales, hard tubercles of various size cover the body, making the skin very rough to the touch. The hump which gives the fish an unmistakeable appearance extends from the head to a dorsal fin of unusual shape, and is composed of a relatively enormous thickening of the skin. The species sometimes reaches a weight from sixteen to twenty pounds and a length up to two feet, though average size is less than that. While usually a bottom-living or demersal fish, at certain times and in certain districts it becomes pelagic or surface-living and takes up its abode in floating masses of seaweed. Apparently it does not venture far off shore or to very deep waters.

The Bay of Fundy seems to be a summer resort of the Canadian lumpfish, for in spring, summer and autumn, especially the summer, the fish may be quite abundant in these waters. While "holidaying" in the Bay of Fundy the fish are found in masses of seaweed which float about from place to place. Passamaquoddy bay too, is a favourite haunt of lumpfish and it is common among the islands of the district.

In May or early June the fish approaches the shore to spawn and is often taken in nets or traps. The eggs are deposited in sponge-like clusters. It is estimated that each female lays from 80,000 to 400,000 eggs, the weight of the ova sometimes being fully one-third that of the whole fish.

As soon as the eggs are deposited, the male takes over guard duty for the period of the incubation. Usually docile, lumpfish becomes quite fearless while on guard and often will attack and drive off much larger and formidable fishes in protection of the "nest". The young grow fairly rapidly and the average size reached at maturity is about a foot in length with a weight of three to five pounds.

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No. 309. Sat. August 5, 1939 --- Canada and Sweden.

Sweden, as we know it, or Sverige, as its people call it, occupies the eastern half of the Scandinavian peninsula, with an area of over 173,000 square miles, or about half that of British Columbia, and a population of about 6,270,000. The inland



waters, of great beauty, are more numerous than those of any other country of Europe except Finland. Considering its northerly position, Sweden has on the whole a very favourable climate. Thanks to the Gulf Stream, the winter temperature is considerably higher than the mean temperature of countries in the same latitudes. This fortunate circumstance has enabled Sweden, in spite of a geographical position comparable with that of South Greenland, to attain a prominent place among the civilized countries.

Swedes probably possess the purest Teutonic blood in existence. They are light hearted and vivacious. In the more remote parts of the country ancient customs are maintained and picturesque local costumes still worn. Yet, despite their love of the traditional customs, they are a very progressive people.

Sweden is a limited monarchy, the constitution resting primarily on a law of 1809. The franchise is universal for men and women over 23. The monarch is Gustave V. King of Sweden, of the Goths and of the Wends. He belongs to the House of Bernadotte, a Marshal of France who became heir-apparent in 1810 and succeeded to the throne in 1818. A famous name in Swedish history is Gustavus Adolphus.

An interesting feature of Sweden is that illiteracy is practically non-existent. Since 1842 education has been free and compulsory. Technical education particularly is far advanced. The non-Protestants number only about 11,000, of whom 8,500 are Jews and 3,500 are Roman Catholics. The country is overwhelmingly Lutheran.

There are more than 81,000 people of Swedish origin in Canada, of whom the males largely outnumber the females.

Canada has quite an important trade relationship with Sweden, aggregating over \$5,500,000. We receive high class machinery of various kinds, including electrical apparatus, as well as sardines, oils, rennet, paper, iron ore, fertilizers, etc., and we send to Sweden rubber manufactures, rye, wheat, canned lobsters, copper, nickel and a large assortment of other articles.

No. 310. Sun. August 6, 1939 -- Arrival of the Air Liner Caribou

There have been many passages across the Atlantic by air since those intrepid Britishers, Alcock and Brown, made the first crossing, but none more momentous than the arrival in Montreal today of the Imperial Airways flying boat Caribou from England.

The Caribou started from Southampton waters last evening at 9:14 p.m., E.D.T., took 800 gallons of fuel on board from a tanker plane in mid air over Ireland, flew to Newfoundland, encountering heavy head winds on the way, and landed on the St. Lawrence near Montreal at 6:11 o'clock this evening. The time of the crossing was 20 hours, 57 minutes. The heavy weather caused the Caribou to be behind schedule three hours and eleven minutes. The craft weighs 24 tons.

The air liner, with a captain and crew of four men, carried 12,000 letters. The good humoured Irish skipper, Capt. J. Kelly Rogers, came in for an ovation from the waiting crowd.

The outstanding importance of the event is in that the arrival of the Caribou on the first of its regular flights across the Atlantic, completes the final link of an Empire airway of 18,536 miles, which extends from Sydney, Australia, to Vancouver, British Columbia.

The 12,000 letters carried upon this occasion were described as a relatively small cargo. The letters were from England, Ireland and Newfoundland.

The thrill of the adventure is the fact that regular air passage across the Atlantic from Canada is now established and North American progress and development has made a decided step onward. Flying ships are now also carrying passengers to England via Newfoundland.

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No. 311. Mon. August 7, 1939 -- Changed Days.

In Eastern Canada particularly, from Western Ontario to the sea there are a great many gabled stone houses, most of them much more than a century old, that were erected for the most part by Scottish settlers. They are picturesque on the landscape. These stone houses were replicas of the kind of homes they had left behind them across the ocean, where a brick house was a rarity and a frame dwelling almost unknown. But times have changed in the later years, and to those who have not seen their native land for a long time, this story, sent by a Canadian trade commissioner, will come with a jolt. He says:

"The construction of timber houses in Scotland is now well beyond the experimental stage. Many schemes are in progress or in prospect and at least one large scheme of 500 houses at Dundee, built of Canadian Western red cedar, is now nearing completion. This contract was recently extended to include the building of 540 additional houses of the same type of construction. While some local authorities are still prejudiced against wooden houses, the practical interest shown by many others has made the question of timber construction one of wide importance. To the Canadian lumber industry, particularly that of British Columbia, the importance of this type of building is obvious. Even if all houses in Scotland continued to be built of stone or brick, large quantities of Douglas fir would be needed (if prices and delivery were satisfactory to buyers) for carcassing and finishing, because a quarter of a million or more houses are required in the next ten or twelve years. But if a considerable part of each of these houses is to be of timber, as seems altogether probable, the quantity of timber needed will be much increased by the use of Western red cedar for walls, weather boarding and shingles.

"The inducement to build timber houses, apart from the shortage of bricklayers, is the greater speed with which they can be built (it being universally admitted that housing construction has lagged behind hopes and requirements) and the advantage of their lighter construction, as compared with those built of other materials, in the many areas of Scotland where there is danger of soil subsidence because of the collapse of ancient coal workings. One case of this kind is at Cowdenbeath, where a scheme is now in operation comprising 72 all-wood houses with Douglas fir frames, Baltic whitewood sarking, Canadian cedar weatherboarding, and, in many cases, Canadian cedar shingles.

"The shortage or uneven distribution of skilled labour is not the only obstacle to more rapid progress; there is the question of demarcation between the different trades. For instance, it was intended to roof the 500 timber houses at Dundee with cedar shingles, but no settlement could be reached as to whether the joiners or slaters should lay them. The only way was to use ordinary tiles, the laying of which is the slater's job."

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No. 312. Tues. August 8, 1939 -- Apples for the Northwest

A great deal of attention is being paid by horticulturists of the Dominion Government to the breeding of an apple for the Northwest and very cold regions. For this purpose hybrids between the Siberian crab apples and commercial varieties have been employed. The work has progressed to the point of sending out a number of "third" crosses for trial. The "first" crosses were all very small crab apples but they exhibited a number of very hardy progeny. The "second" crosses, in reality a first generation back cross, exhibited less hardiness but increased size and quality. Several of these, however, showed sufficient hardiness to warrant the continuation of the experiment. About one hundred "second" back crosses or "third" crosses have fruited, exhibiting full apple size and commercial quality. Several of these appear to possess more hardiness than the "second" crosses. While this work was started for the Northwest, "third" crosses appear promising as hardier sorts for the main fruit regions.

The story of the apple is a very interesting one. It is a tree of the rose family of plants, native to the temperate regions of Europe and Asia and now cultivated extensively in all temperate climates. The wild crab of Europe, a small and sour fruit, is the original of the cultivated apple. Apples have been cultivated for more than 4,000 years and there are now, due to scientific grafting, upwards of 2,000 varieties.

Apples were brought to America by the early colonists in both New England and New France and are now grown extensively from coast to coast in Canada and every state of the United States. The growth of apples is recorded in Acadia in 1635.

One native species occurs in Canada, the wild crab. It is a small tree found rather infrequently throughout southern peninsular Ontario and is not to be confused with seedlings of cultivated origin. The flowers are very showy and the fruit is green, covered with wax, very hard and sour, and resembles an apple, but is small, about an inch in diameter, and remains on the tree into winter. The tree is armed with thorns.

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No. 313. Wed. August 9, 1939 -- Wild Life in National Parks

Wild life continued to thrive in Canada's national parks last year. Bighorn sheep showed a decided increase in those parks in which they are found, and a recent survey carried out in the mountain parks indicates that all species of game animals are in a satisfactory condition. While a census of the game animals in the larger scenic and recreational parks is not practicable owing to the extensive area over which they roam, an estimate of the animals in fenced enclosures in the national parks at the end of the fiscal year discloses a total of 3,566 buffalo, 2,202 elk, 873 mule deer, 240 moose, and 100 antelope, in addition to a small number of hybrids (cattalo), yak, white-tailed deer, and Rocky Mountain sheep.

During the year a colony of white pelicans and double-crested cormorants was located nesting on an island in Lavallee Lake in Prince Albert National Park in Saskatchewan. Another event of interest was the placing of two colonies of beaver, comprising nine animals, in Cape Breton Highlands National Park in Nova Scotia, marking the return of these animals to a region from which they had been absent for more than a century.

The conservation and protection of wild life continues to be one of the primary functions of the national parks. The sanctuary conditions provided under the watchful eyes of the park warden service have resulted in gratifying increases in animal and bird life. For some years four wild animal parks were maintained in Alberta to conserve animal species native to the plains of Western Canada. Three of these areas, namely Buffalo, Elk Island and Nemiskam are enclosed by fences. The fourth, Wawaskesy, an unfenced area, originally established for the protection of the prong-horned antelope, was abolished in June, 1938. In recent years the antelope have increased to such an extent on the prairies that it was no longer considered necessary to maintain two reservations for antelope, and efforts to preserve a herd of these animals are now centred at Nemiskam. Recent reports from the animal parks indicate that all animal herds are thriving.

No. 314. Thurs. August 10, 1939 -- Breathing of Apples

For nearly five years the Government horticulturists have been making an intensive study of the breathing of apples, and the result is that by a process known as gas storage it is possible to add fully 50 per cent to the storage life of fruit.

The research work owes its origin to the fact that fruit is living material even after it is picked. It has reserved energy and the more this energy can be conserved the longer the fruit will last or keep. In their breathing, as in nearly all forms of life, apples take in oxygen and give off carbon dioxide in the process of respiration. It has been found that if carbon dioxide is allowed to accumulate within and around the fruit, a preservative effect is produced. So by storing the fruit in a gas tight room, carbon dioxide accumulates and the oxygen is reduced. It is this increased carbon dioxide and less oxygen that aids in the storage life of fruit.

It is not, however, just as simple as it sounds. There is a multiplicity of factors to be considered and reckoned with which take time and much patient concentration on the part of the research worker. As an example, if the accumulated carbon dioxide exceeds a certain concentration, the fruit will suffocate and die by what is termed a physiological disease.

Under ordinary cold storage, apples and other fruits are stored in a temperature of 32 degrees Fahrenheit. At this temperature it has been found that McIntosh apples develop a disease termed Core Flush which soon completely spoils the fruit. Under gas storage at a temperature of 39 degrees Fahrenheit with about seven per cent carbon dioxide and 14 per cent oxygen, they can be kept 50 per cent longer, at a given temperature, without core flush developing, and retain fully their fresh, firm appearance. The economic advantage of this to the fruit producer and to the consumer is obvious.

When gas storage of fruit becomes fairly general it will mean that the storage of Bartlett pears, for example, can be extended for several months and will retain all their lusciousness at the end of this period. Similar conditions may apply to other fruits and even vegetables.



No. 315. Fri. August 11, 1939 - - Pearls from Herring

A pound of herring scales is worth more than a pound of herring! What's that, the part greater than the whole? Absurd, as Mr. Euclid might say. Absurd but literally true in South-western New Brunswick in some recent weeks - literally true and at the same time, utterly misleading when taken by itself.

Of course, there's a catch to the statement. Here it is: A thousand pounds of herring in Southwestern New Brunswick yield only about thirty-three pounds of scales. At recent prices, three cents or so a pound, the thirty-three pounds of scales were worth roughly a dollar but the thousand pounds of fish they came from were worth from ten to fourteen times that much to the fisherman.

The misleading quality of the literally true statement that a pound of scales was worth more than a pound of herring becomes very clear in the light of the complementary facts.

Official reports from the Southwestern New Brunswick area tell of the continuation of the business in herring scales, which are shipped to the United States where they are used in producing pearl essence which, in turn, is used in making artificial pearls, knife handles, etc. The scale business is not very large although in 1937 it amounted to slightly more than \$12,500, all of it done by New Brunswick fishermen.

In making pearl essence the lustrous particles adhering to the scales are removed by a special process and held suspended in water. Later, the excess water is drawn off and the essence remains. The lustrous particles, by the way, are deposits of very thin blade-like crystals of pure guanin in the epidermis of the fish. The crystals, scientists say, are roughly proportionate to the size of the fish from which they come; thus, the crystals from the sardine herring are much smaller than those from larger fish and make an essence of finer quality.

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No. 316. Sat. August 12, 1939 - - Canada and Yugoslavia

Yugoslavia is a convenient name for the Serb, Croat and Slovene state which originated in 1918 at the end of the Great War. The inhabitants are mainly South Slav. Serbs number one-third of the whole population of nearly 15 million. Pre-war Serbia had no seaboard, but the inclusion of Croatia, Dalmatia and Montenegro in the Kingdom gave access to the Adriatic down a lengthy coast. The area is over 96,000 square miles, or about twice the size of Nova Scotia and New Brunswick combined. It also has a free zone at the Greek port of Thessaloniki. The Danube forms a great commercial waterway and Belgrade, the capital, is the second busiest port on the river. King Peter, aged 16, is a schoolboy in England.

The Orthodox, Roman Catholic, Protestant, Mohammedan and Judaic religions are recognized by the State, but nearly 47 per cent of the population is of the Orthodox faith. Education is compulsory and elementary education free.

The principal industry is agriculture, in which over 75 per cent of the people are engaged. Maize is the chief crop, wheat second and barley third. The mineral output includes coal, copper, lead, iron, bauxite, chrome ore and salt.

Belgrade, which means the "White Fortress", is a city of rapid growth and advanced equipment and has a population of close to one-quarter million. The first

shots of the Great War were fired by Austrian guns bombarding Belgrade on July 29, 1914.

Yugoslavia, as today constituted, has three times the area of post-war Austria, with a population not quite twice as great.

Canada has not a very large trade connection with Yugoslavia, the interchange of commodities amounting to about \$75,000. Our imports are much greater than our exports, hops being the largest item, along with some iron and other metals as well as general merchandize, which occasionally includes cheese. We have been sending to Yugoslavia rubber and silk manufactures, spark plugs and aeroplane parts.

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No. 317. Sun. August 13, 1939 - - Learn to Do by Doing

In all agricultural fairs and exhibitions held throughout the Dominion in recent years no feature has been more outstanding than the work of the Boys' and Girls' Farm Clubs. This junior division of Canadian agriculture is composed of the many and varied junior farm clubs in all the provinces, the provincial and district grain, potato, calf, swine, poultry and other clubs which are all co-ordinated through the medium of the Canadian Council on Boys' and Girls' Farm Work.

The reason of the spectacular success made by the clubs in the competitive lists of the exhibitions is readily apparent, for not only have the young farmers and farmerettes of Canada produced exhibits of the highest quality but by their ardor and enthusiasm are giving a new leadership to Canadian agriculture.

There are many projects embodied in the programme of the work of the Boys' and Girls' Farm Clubs of Canada - live stock, field crops, horticulture, and home economics. As results of this work, potato production in one area has been revolutionized; in other districts, production of live stock has been raised to a high standard and in other areas thousands of bushels of grain have been added to production.

Particular examples of excellent work were seen at a recent Ottawa exhibition when 177 boys showed high-quality calves they had acquired and reared as part of their club work; also at the Lakehead Exhibition at Port Arthur where a young farmer exhibited no fewer than 11 animals and the champion Holstein cow, all acquired as a result of his calf club work. In Alberta, 74 wheat clubs, with approximately 1,385 boys have built up a substantial supply of excellent seed for the province by seeding over 5,500 acres to registered, certified, and improved wheat seed. In Ontario and other provinces, several fine herds of cattle can trace their establishment to what the boys and girls of these clubs have been doing. In short the fine work of the junior division is being carried out with enthusiasm in every province.

The Boys' and Girls' Farm Clubs represent an active membership of more than 37,000, and every year since the movement began 25 years ago the membership keeps on increasing. The motto of the clubs is "Learn to Do by Doing".

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No. 318. Mon. August 14, 1939 - - Forest Insect Pests

Some of the older readers of these Facts will probably remember that about forty years ago, the Larch Sawfly was ravaging Canadian forests and killed off almost



every larch tree in the Dominion. Now we are told that in British Columbia that destructive insect is on the rampage again.

Next to fire, insects probably constitute the greatest menace to the forest resources of Canada. The annual damage caused by insect pests to the forests of the Dominion totals many millions of dollars.

Four years ago the Forest Insect Investigation Section of the Department of Agriculture inaugurated a Forest Insect Survey to learn just what species of insects were most prevalent in different areas of the country so as to have as accurate information as possible on their fluctuations and the damage caused by them. With this information an intelligent plan could be worked out for methods of control where practicable.

Thousands of samples of insects are now received each year and as a result of the survey much useful information has been disclosed. For example in 1935 and 1936 the Forest Tent Caterpillar was a serious menace to the forests in the Port Arthur and Nipissing areas in Ontario. This year the survey shows the tent caterpillar is doing comparatively little damage in those areas due to the fact that the native parasites have reasserted themselves and are thriving on the caterpillars. The parasites, by the way, are harmless in the forests.

But while the Tent Caterpillar would appear to be declining in Ontario, the Spruce Budworm, an old enemy of the pulpwood forests, is increasing. There is a severe infestation of it in Algoma and it is now common in Eastern Ontario and Western Quebec. Further west the similar Jack Pine Budworm has damaged vast areas of Jack Pine from Manitoba to Lake Superior. In the Northern Sections of the Prairie Provinces, the Forest Tent Caterpillar is active and the Fall Cankerworm is attacking shade trees in the southern districts of the Prairies.

In Quebec and the Maritime Provinces the European Spruce Sawfly and the Larch Sawfly are the major pests. But there is an infinite variety of species active everywhere. As yet it is practically impossible to apply methods of control over large areas of forests because of their inaccessibility and vast extent.

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No. 319. Tues. August 15, 1939 - - Canada's Forests

Yesterday we were talking about Forest Insect Pests and the campaign the Dominion entomologists are waging to keep these enemies under control. Today, therefore, it would seem appropriate to say something about the great value to Canada of her immense forests.

Canada's forests occupy about 785 million acres, or more than one-third the total land area of the Dominion. More than half of the forest area - 492 million acres - is capable of producing timber of commercial value. The remainder of the forests, situated on sub-alpine, sub-arctic, and other less favourable sites, are of value for their influence on climatic conditions, the control of stream flow and water supplies, the protection of wild life, and as sources of wood supplies for the local needs of the native and white population. Of the productive forests it is estimated that 230 million acres at present carry timber of merchantable size, and on 262 million acres there is young growth of various ages to meet future demands.

The total amount of timber of merchantable size in Canada's forests is estimated at 273,656 million cubic feet, of which 170,144 million cubic feet is

considered accessible by means of the present transportation facilities. This accessible and merchantable timber includes 245,313 million feet board measure of wood suitable for the manufacture of sawn lumber and 1,107 million cords which may be utilized as pulpwood, fuelwood, and mining timber. The softwoods, which are in the greatest demand for construction and for the manufacture of pulp and paper, comprise about 80 percent of the total stand and about the same proportion of the annual cut.

Canada's forests supply raw material to about one third of the Dominion's manufacturing plants. These industries provide employment for about one out of every four persons engaged in the manufacturing industries and pay about one-quarter of the wages. The forest industries, including woods operations, provide the equivalent of full-time employment to approximately 179,500 people, but owing to the seasonal nature of the work, especially in the logging and lumber branches, it is estimated that at least 350,000 workers receive a substantial amount of employment in the forest industries.

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No. 320. Wed. August 16, 1939 - - Bovine Tuberculosis

Bovine tuberculosis is one of those animal diseases that menace the health of the people most seriously. How dangerous it is will be realized at once by those who have never before given a thought to it when it is mentioned that a great carrier of the disease is the milk of tuberculous cows. In defence we pasteurize our milk.

A great battle against bovine tuberculosis has been waged in Canada. Forty-three years ago the free testing of herds with tuberculin was started. The demand for the service in 1896 was not great but its introduction gave the owners of live stock an opportunity to become familiar with the test and at the same time afforded an opportunity of determining the extent of infection in herds. Gradually live stock men saw the economic value to them of having cattle free from tuberculosis. They saw it was easier to sell such cattle for export and also on the domestic market. At the same time municipalities and public health authorities were becoming more insistent on milk being sold from cattle known to be free from the disease. Considerable progress in eradicating tuberculosis among cattle has been made. Of the 8,840,000 cattle in Canada about 36 per cent are now under supervision. Of the total 4,762,000 are in the Eastern provinces, of which 52 per cent are under supervision.

There are three plans under which the work of eradication of bovine tuberculosis is carried on:

1. Accredited Herd Plan, the object of which is the eradication of tuberculosis in pure bred herds. These herds are tested free by veterinary inspectors employed by the Dominion Department of Agriculture. Compensation is paid for reactors based on two-thirds of the valuation placed upon the animals by the Department's veterinary inspectors. The latest figures show there are 8,520 fully accredited herds in the Dominion.

2. Supervised Herd Plan. This is a single herd policy applicable to grade herds irrespective of the number of pure-bred or grade animals they contain. No compensation is paid for reactors, but the owners receive whatever proceeds there may be from the salvage. There are 52,182 supervised herds throughout the country.

3. Restricted Area Plan. The object of this plan is the eradication of tuberculosis in definite areas. At least two-thirds of the cattle owners in any definite area must sign a petition for the establishment of such an area under this plan.



The payment of compensation is based on the same limitations and maximum valuations provided under the Accredited Herd Plan. About 2,390,000 cattle are under the Restricted Area Plan. Cattle under all policies for tuberculosis eradication number about 3,245,000, an increase from 2,332 cattle in 1916.

No. 321. Thurs. August 17, 1939 - - Canadian Aviators

A personal letter from a high British naval officer to one of his relatives in Ottawa contains this significant statement: "Your Canadian aviators are marvels of the air, full of resource", and the Department of Mines and Resources has just issued a very timely article which explains why these Canadian aviators of ours are so skilled. It says:

"The development of air navigation in Canada has differed from that in other countries where air traffic between the chief centres of population received the most attention, while in Canada the facilities of aircraft were first put to real practical purposes in forest reconnaissance, surveying and transportation to inaccessible areas.

"Successful flights for forest protection and survey work were first made in Quebec during the summer of 1919, and in the summers of 1920 and 1921 bases were established by the Air Board, with provincial co-operation, at various points across Canada from which forest patrols and survey work were carried on. Then came the discovery of crude oil at Fort Norman, on the Mackenzie River, in the fall of 1921 which led to the first large-scale attempt to establish air transportation in the far north. The next major development in air navigation was prompted by mining activity in Rouyn, in northwestern Quebec, when the first regular freight and passenger air transport service in Canada was inaugurated in 1924.

"From these beginnings the expansion has been rapid. Air transportation has been of invaluable aid in mineral development in the Northwest Territories, where regions rich in minerals of economic importance are now served by fleets of modern type aircraft equipped with skis in winter and pontoons in summer. Formerly accessible only by dog teams and canoe, many districts are now within a few hours flying time from large centres of population.

"The airplane has also proved a great boon in the administrative field in Canada in the development and conservation of her vast natural resources. Aerial forest-fire patrols are now carried on over large parts of almost every province; fishery patrols by airplane protect territorial waters and enforce fishing regulations; and by the use of aircraft equipped with special cameras, preliminary surveys which would have taken years by the older methods are now rapidly made over large tracts of difficult country.

"Development of inter-city air transportation in Canada has not been overlooked. As an initial step in establishing a chain of airports across the Dominion and also to provide for the training of personnel, the flying club movement was started with the offer of government grants and gifts of aircraft. A number of flying clubs were established in the principal cities in 1928 and 1929, and the air dromes established by municipalities or by these flying clubs formed the nucleus for the Trans-Canada Airway, which has been designed to facilitate inter city air navigation throughout the Dominion.

"Reflecting the growth of aviation in Canada within the past few years, the production of aircraft has increased from 18 airplanes valued at \$117,689 in 1934

to 282 machines valued at \$4,001,622 in 1938. During the last year a total of thirteen Canadian factories were occupied chiefly in making or assembling aircraft or in manufacturing parts or devices such as pontoons, skis, trainers, and other accessories!"

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No. 322. Fri. August 18, 1939 -- Today's Fish Story -- Black Bass for Saskatchewan

The efforts that have been made to introduce small-mouth black bass to western waters during the past two or three years have aroused a great deal of interest, especially amongst anglers. Apparently these efforts have given promise of success.

Another shipment was made in early June of this year and shortly after the fish were placed in Lake Waskesiu park attendants observed the eggs and fry in a number of the artificial nests provided for the spawning of the bass. When ready for distribution, almost 40,000 fry were taken from these nests.

Previous plantings of black bass were made in Lake Waskesiu with fish from the Georgian Bay in 1937 and 1938, and a recent survey indicates that these operations were successful. One natural nest was discovered and several fish were observed. Reports of catches of small mouth black bass by anglers also support the view that the bass are becoming established in the park waters.

If the introduction of black bass into Prince Albert National Park proves successful it will mark another triumph for fish culturists rivalling the planting of eastern speckled trout in the waters of some of the mountain parks. The black bass were shipped from Eastern Canada to Prince Albert, Saskatchewan, a distance of about 1,700 miles, in a railway express car equipped with special tanks. From Prince Albert the tanks were transported by truck to Lake Waskesiu, 70 miles, and to their final destination by boat. It was a remarkable journey.

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No. 323. Sat. August 19, 1939 -- Canada and Bulgaria

Bulgaria is a kingdom of the Balkans, bounded on the north by Roumania, on the west by Yugoslavia and Greece, on the east by the Black Sea and on the south by Greece and Turkey. The total area is about 40,000 square miles, considerably less than Nova Scotia and New Brunswick combined, with a population of over six millions. The prevailing religion is the Eastern Orthodox Church with a following of 83 per cent, Mohammedans comprising 14 per cent. The Tsar is Boris III.

From the earliest times when the Bulgars, a Slav tribe, first established a kingdom, the country has at intervals been the scene of turbulence and bloodshed. The Bulgars expelled or absorbed the ancient Thraco-Illyrian race. They were a Turanian race, akin to the Huns and Avars, and belonged to the wave of migrants which came westward behind the Huns. They were a horde of wild horsemen, fierce and barbarous. In the reign of Simeon (893-927), a distinguished monarch, Bulgaria assumed a rank amongst the civilized powers of the earth.

After Simeon's death the Bulgar power declined, and the condition of the people under oppression became pitiable. Under 500 years of Turkish rule fearful barbarities reduced whole districts to desolate wastes. Even as late as 1876 when the long dormant national spirit was reviving and a general revolt broke out prematurely, there were wholesale massacres and ruthless barbarity by Pomaks, Circassians and Tatars. Some 15,000 Bulgarians were massacred near Philippopolis.



including 5,000 women and children in Batak alone. The atrocities were denounced by Gladstone in a celebrated pamphlet which aroused the indignation of Europe.

However, in 1878, with the assistance of Russia, an autonomous principality was established and the Bulgarians realized almost all their ambitions. The Balkan wars brought further troubles.

In 1915 Bulgaria entered the World War on the side of the Central Powers declaring war on Serbia. She thus became involved in the defeats of 1918, and was the first to sue for peace, making an unconditional surrender to the Allies. Her Thracian territories were handed over to Greece and some territory on the western front to Yugoslavia.

The Bulgarians are a peasant people in the main and they have enjoyed only about half a century of national life. Their international trade necessarily consists of the exchange of agricultural products for cheap manufactures. In 1938 about \$15,000 worth of goods came to Canada but they were chiefly furs, and we sent to Bulgaria about double that value, principally rubber belting and copper.

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No. 324. Sun. August 20, 1939 - - Collecting Eiderdown

Permission to establish an eiderdown industry in the Eastern Arctic has been granted the Hudson's Bay Company. An area embracing the southern coast line of Baffin Island and all islands east from Cape Dorset to Pangnirtung has been leased to the company for the purpose of establishing sanctuaries for the eider ducks, and a permit for the collection of the down has been issued under the authority of the Migratory Birds Convention Act.

About 1,500 Eskimos live in the eider duck area, and the development of the industry should contribute to the livelihood of many of them at a time when they have little else to do during the period between trapping and hunting seasons. Under the company's plan Eskimo families participating in the industry will be allotted certain regions in which to collect eiderdown. The natives will be taught how to remove the down without causing the ducks to abandon their nests, as well as the proper methods of cleaning the down.

In addition to contributing to the support of the Eskimos, the new industry is expected to encourage conservation of the ducks by the natives. Heretofore the Eskimos had no idea of the value of eiderdown and did not use it for any commercial purpose. Periodic visits to the nesting grounds by the native collectors will tend to safeguard the ducks from foxes and other natural enemies.

Possibilities for the development of the eiderdown industry in the Eastern Arctic were investigated last year by Mr. J. J. Bildfell, of Winnipeg, Manitoba, who accompanied the 1938 Eastern Arctic Patrol. Mr. Bildfell returned to Baffinland with this year's patrol, where he is now endeavouring to establish the eiderdown industry on behalf of the Hudson's Bay Company.

Eiderdown is much in demand in commerce, and the work of developing the eiderdown industry in Canada was first begun in 1933 along the north shore of the Gulf of St. Lawrence. It was started as a measure of protection for the ducks by impressing on the inhabitants the benefits to be gained by safeguarding the birds and adopting modern methods in the collection of down. The eider ducks produce this

down on their bodies and deposit it in their nests as a soft warm protection for their eggs. By the exercise of due care, some of the down can be taken from the nest without causing the duck to abandon incubation or without interfering with the eventual hatching of the eggs.

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No. 325. Mon. August 21, 1939 -- A Tourist Paradise

Now that the summer tourist season is on the wane and one's thoughts wing to next year with embryo plans for seeing more and more of this Dominion, it will be of more than passing interest to learn that the Big Bend Highway is expected to be open to traffic for the 1940 travel.

The prospect of being able to drive from Vancouver to Port Arthur is being hailed by motorists on both sides of the Rockies as a development rivalling the completion of the first trans-continental railway more than a half century ago. Not only will the new highway provide a direct route from Western Ontario and the Prairie Provinces to the Pacific Coast, but it will also bring such world famous tourist centres as Lake Louise, Banff and Jasper within easy reach of motorists from Vancouver and the coast cities of the United States.

The Big Bend Highway has been built around the great northern bend of the Columbia River between the Towns of Revelstoke and Golden in British Columbia. It is 193 miles in length and on completion will form the final link in the western half of the Trans-Canada Highway, which will ultimately extend from Halifax to Vancouver, a distance of approximately 3,500 miles.

With a rich historical background of exploration and conquest, of fur traders and gold-seekers, the area through which the Big Bend Highway passes comprises a magnificent mountain region within sight of snowfields, glaciers and all the other charms of a truly alpine world. The first white man to journey around the Big Bend of the Columbia River was David Thompson, noted surveyor and geographer, who was engaged by the North West Company to establish fur trading posts in the region west of the Rockies. For the greater part of its route the new highway skirts the Columbia River, affording splendid views of the snow-capped Selkirk Mountains and of the giant peaks which form part of the main divide of the Rockies. It passes through one of the finest stands of virgin timber in the West, where giant cedar trees having butts up to six feet in diameter rise high above the roadway along with fine specimens of spruce which attain a height of 150 feet. Scattered groves of stately firs from three to four feet in diameter are also found along the way.

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No. 326. Tues. August 22, 1939 -- Lichen

The gathering and packing of reindeer moss, one of the lichens, a little known forest product which grows extensively throughout Canada, for decorative purposes has commercial possibilities. This moss-like material is particularly abundant in the Canadian Northland, where it is an important source of food supply for the barrenland caribou. Mixed with flour this lichen also may be baked into bread or biscuits, and early French voyageurs to Canada are said to have used it for this purpose.



In Norway this lichen is widely used for stock food, and in that country the merchandising of it as a decorative material has developed into a substantial industry.

Lichens are distributed over the entire earth, being least numerous in the tropics and reaching their maximum development in Alpine and polar lands, where they often form the principal vegetation over immense stretches. In such areas the stone and earth varieties predominate, while in tropical and temperate zones, the parasite is found upon bark and wood.

In the northland lichens play their most important part in the economy of nature by secreting acids which disintegrate the hardest rock, and then in binding together the new soils which result and in contributing organic material by their decay.

Reindeer moss is the most important of the few varieties which have food value. Covering vast stretches in the north, it is an invaluable food supply for the reindeer and caribou. Lichens owe their food value to their high content of lichenin, or lichen starch. One edible form in Arctic America is known as "trip-de-roche" but it has a bitter taste common to all lichens which restricts its use as food.

It is a far cry from the lichen diet of the Arctic reindeer to the manna from Heaven which nourished the children of Israel on their forty years' migration across the trackless desert, until it is recalled that the arid regions in northern Africa and western Asia produce large quantities of manna-lichen, which is used to make bread, especially by the Tartars. This lichen is readily torn away from the substratum by the wind and is carried often a considerable distance before falling as "manna-rain". This phenomenon has been observed repeatedly in modern times, and probably accounts for the manna of the Israelites.

A product of lichen was once widely used in dyeing, where it was famous for its brilliant purples, but it has been largely replaced by the aniline dyes. However, litmus dye, made by fermenting certain coarsely powdered lichens, is still extensively used in chemistry because of its red coloration in the presence of acid. Lichens were also of great value in surgical dressings, etc. at one time, and Iceland moss is still used officially as a medicine. It contains cetrarin, a bitter principle which is tonic and astringent, and a large amount of lichenin. Our imports of Iceland Moss run up close to three million pounds.

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No. 237. Wed. August 23, 1939 - - Canadian Canning

War clouds are gathering in Europe and it may very well be that Canada will become involved, for the issue will be freedom and the enemies of liberty seem to be girding themselves for a campaign of destruction of the rights of free men. So it behoves Canadians to prepare. One of these preparations is canning food.

Canning of food owes its inception to war. In 1795 Napoleon offered a prize of 12,000 francs for an improved and practical method of preserving food from one harvest to another. The prize was won in 1804 by Nicholas Appert, a confectioner of Paris, whose containers were made of wired and corked glass jars. The introduction of a metal container was due to an Englishman, Peter Durand, who was granted a patent in England in 1810. He called his container a tin can, as the pattern was

based on that of a tea canister. Most of the recent improvements in canning have been made in the North American continent.

The link with Napoleon, **says** the Imperial Economic Committee in its world-wide survey of the trade in canned food, and the fact that canned foods were used on a large scale in the Crimean War, the American Civil War, and in British colonial wars may cause undue emphasis to be laid on military necessity as a factor in the development of canning. It has undoubtedly played an important part, but the most powerful stimulus was the demand created by the industrial and agricultural expansion in the second half of the nineteenth century, and the development of new areas of food production remote from consuming markets. As the demand in these markets increased, local industries were established for the canning of home-grown produce.

The commercial marketing of canned foods began about 1820, among the first foods so marketed being sardines and peas. In Canada, commercial canning is one of the oldest of the larger organized industries. The first canning factory in Canada was established at Grimsby, Ont., in 1878. Canada is now one of the leading countries of the world in the canning of food particularly vegetables and fruit.

Last year over 93 million pounds of tomatoes were canned, over 60 million of peas, 46 million of cream of corn, which gives some idea of the extent of the industry, for it includes a very large variety of products such as meats, fish and fruits.

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No. 328. Thurs. August 24, 1939 - - Infantile Mortality

In recent years a great part of the energy devoted by the medical profession and sanitarians to effect a decline in the death rate has gone to reduce infantile mortality, and in this field a large measure of success has been attained. In Canada, the dominion, provincial and municipal health authorities have all taken part in the struggle, and usually, in the absence of epidemics, each year is showing an improvement. In the 17 years for which the figures are available there is evident a very **considerable** decline in infantile mortality, although the rate for 1937 shows an increase over 1936. In 1921 the infant death rate for Canada (using figures from provincial sources for Quebec) was 102 per 1,000 live births. This rate had been reduced to 76 in 1937.

Infantile mortality in Quebec, which has exceeded that of any other province in the past, was below that of New Brunswick in 1937. A study of the Quebec rates shows that steady improvement has been made in the eleven-year period during which the province has been included in the registration area. In Canada as a whole almost 7,000 infant lives were preserved in 1937 which, under conditions prevailing in 1926, would probably have been lost.

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No. 329. Fri. August 25, 1939 - - Today's Fish Story - Black Salmon

New Brunswick this year found \$45,000 in new money as the result of the black salmon fishing season on the Miramichi, famed angling water of the seaside province!

"Black salmon!" says someone, "Never heard of them!" That may be true, too, but nevertheless there are such fish, and catching them by angling is a sport



of growing importance in New Brunswick.

What are black salmon? A natural question. And easily answered. In brief "black salmon" are simply those members of the Atlantic salmon species, *Salmo salar*, which after the long trip made up the New Brunswick river to spawn, remain, when the winter ice sets in, for some as yet undetermined reason throughout the winter months. Because of their long period in fresh water they have lost their normal silvery coloration and have become rather dark or black in appearance. Hence the name "black salmon". Spent, as is usual after spawning, the salmon appear to mend rapidly, and when the ice begins to leave the pools in the following spring the big fellows, ravenously hungry, rise to almost any lure and strike viciously.

Fishing for these salmon with barbless hooks has become an outstanding early spring angling attraction in New Brunswick. Special permits are required, and the angler is allowed to retain but one fish a day, others hooked being returned to the water uninjured. It is not permitted to hook over 10 fish in a single day. Permits are granted by the federal district supervisor of fisheries between April 1 and May 24, the latter the opening date of the regular salmon fishing.

In recent years an increasing number of permits have been taken out by non-resident anglers. In 1939 up to May 24, a total of 450 such permits were granted non-residents, compared to 356 in the previous season, and 237 in 1937.

It has been estimated that the average visiting sportsman angling for these fish spends seven days in the province and that the cost average per man for this period is \$100. On this basis the value of the 1939 black salmon fishing to the province of New Brunswick was \$45,000. Statistics for the catch are not yet available, but in 1938, according to reports, 356 permit holders took 2,492 salmon, and the 1939 catch would probably exceed this number.

Since these "black salmon" have already ascended the stream and spawned during the previous spring and are taken on the way back to the sea, no direct loss of spawning is involved in catching them, as would be the case if the fish were taken at the usual season while on their way to the spawning grounds.

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No. 330. Sat. August 26, 1939 -- Canada and Greece

Greece is one of the great imperial countries that have fallen far from their former greatness, a country that produced men of learning, philosophers, poets, statesmen and warriors. Today, Canadian school children are taught much of what Grecian youth were taught many long centuries ago.

But its modern history has been less fortunate. Subject to Turkish rule since the 15th century, Greece recovered its independence in 1830 and after a succession of rulers of the Glucksburg dynasty, became a republic in 1924. However, it was again declared a kingdom in 1935 with a senate and a chamber of deputies, the latter elected for four years by manhood suffrage. In 1936, owing to political difficulties and the menace of communism, dictatorial powers were assumed by General Metaxas and his cabinet and parliamentary government suspended.

During the Great War, Greece declared for the Allies against the Central Powers, supplying 150,000 soldiers and her territories much reduced in modern times were increased. She also received a mandate for the occupation and administration of the town

and district of Smyrna, but forces of the Angora Government, under Mustafa Kemal Pasha, recovered the mandated region in 1922. The Greek forces were annihilated, Smyrna evacuated and the Greek population of Asia Minor which escaped massacre took refuge in Greece. By the Treaty of Lausanne of 1923, Eastern Thrace and the islands of Imbros and Tenedos were retroceded to Turkey.

Greece is now composed of a continental portion, the southern part of the Balkan Peninsula, and of islands in the Aegean, Mediterranean and Ionian Seas. The surface is nearly all mountainous and the coasts deeply indented. The area is estimated at about 50,000 square miles and the population about six and a quarter million.

Agriculture is the principal industry, and employs more than half the population, the most important product being tobacco which accounts for nearly half the total exports of Greece. The country is rich in minerals and the chief industries are smelting, textiles and shipbuilding.

Greece purchases large quantities of Canadian wheat, the amount last year being about one and a half million bushels and in return receives considerable amounts of dried currants, figs, raisins and other prepared fruits, as well as wines, brandies and furs. The total trade between the two countries amounted last year to about \$1,500,000.

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No. 331. Sun. August 27, 1939 - Looking Backward - 1

War appears to be inevitable. On this quiet Sunday morning, the people in church seemed to be more grave than ordinary and the prayers of the minister in accord with that state of mind which precedes incalculable events. So we may spare a moment to consider the state of Canada long ago and its capacity to produce implements of war and all that goes with war. For war was then, even as today, a war of economics.

What has often been described as the cradle of Canadian industry was on the River St. Maurice, about nine miles from its outlet at Three Rivers on Lake St. Peter. For 15 years it was the site of an intense activity and for the greater part of that time, it furnished the Quebec colonists, the military garrisons and the ships with all the iron necessary for their needs. For more than a century after their foundation in 1730, the St. Maurice Iron Works were the only source of iron in Canada, and this played an important part in the life of the new colony. Later their relative importance diminished until the day when cast iron was abandoned before the coming of modern industrialism, which overshadowed this primitive establishment.

In 1666, Colbert, one of the cleverest administrators ever produced by France, ordered Talon, the great commissary of New France, a man of equal character and capacity, to search for iron ore to establish industries among these courageous colonists.

The first mineral found was iron oxide, at Cap-de-la-Madeleine, at the mouth of the St. Maurice. This oxide is used today, but for the making of paint. However, le Sieur de la Potardiere in charge of operations did not find this ore useful so the Colbert plan failed.

The official interest in iron ore had stirred the imagination of some colonists, who discovered much further on the St. Maurice many deposits of minerals much more compact, and cleaner, than at the mouth of the river. Like all mining discoveries



of today, this one provoked the enthusiasm of local residents and plans were made to erect blast furnaces. In 1670, Count de Frontenac, the resourceful and energetic governor, visited the mines and made a flattering report to the Government in Paris.

Meanwhile, the colonists themselves attempted to exploit these deposits and finally in 1730 Mr. de Francheville erected the first forges. However, he lacked experienced help, so that the production was very small and finally the enterprise failed.

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No. 332. Mon. August 28, 1939 - - Looking Backward 2

As was pointed out yesterday, the first forges of de Francheville failed. However, so great was the faith of these early colonists that six years later a new attempt was made, this time with the help of subsidies from the King of France and competent labour. From that day on, the works produced iron without interruption for 150 years, with the exception of delays and intervals ordinarily encountered in industrial enterprises even today. This is a unique record on the American continent as the primitive iron works in other localities have had a much more restricted life. The Old Forges of St. Maurice occupy an important place in the document following the capitulation of Quebec in 1759, and the English military authorities did not delay in re-organizing this supply of iron under the new regime. The employees kept their jobs and were very well treated.

In 1767, the works were transferred by contract to civilians, who repaired and brought them to a greater prosperity. The owners, a company of French and Scots merchants from Quebec and Trois Rivières, with Mr. Pelissier as president, named as resident manager in 1775 the young Frenchman, Pierre de Salle Laterrière.

In 1863, Messrs. John MacDougall and Sons, of Trois Rivières, bought the property, improved it, and exploited it continually until 1883, when scarcity of ore and the difficulty of obtaining charcoal rendered operations disadvantageous.

It is related that in 1886, the old farm was still well preserved and that the "main house" or residence of the manager, the blast furnace, and the works were still in good condition. Since then they have fallen in ruins. Visitors may see today these picturesque remains: a pile of rocks indicating the "higher forge" where the ore was transformed into iron, and also a tall chimney, site of the fires of the smith's forge, and a gable end of the "main house" framed with trees. It is where the French intendant and the English governors were received in state as fitted the largest industry of His Majesty on the American continent.

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No. 333. Tues. August 29, 1939 - - Mothers' Allowances

Seven of the nine provinces of Canada provide for the payment of allowances to mothers who are widowed or without adequate means of support. The province of Manitoba was the first to make such provision in 1916, and the example has been followed by the other western provinces and by Ontario, Nova Scotia and Quebec. The Mothers' Allowances Act, 1950, of New Brunswick has not been proclaimed in effect.

All the mothers' allowances acts stipulate that the mother must be a resident of the province at the time of making application and a widow or, in all provinces but

New Brunswick and Nova Scotia, a wife whose husband is mentally incapacitated. In each case the applicant must also be a resident of the province at the time at which death, incapacity, or desertion occurs. Under all the laws, except those of New Brunswick, Nova Scotia and Quebec, the wife of a physically disabled man is eligible but the section in the Alberta Act relating specifically to such persons has not been proclaimed. In British Columbia allowances are paid in cases where total disability is expected to continue for one year or more.

In Alberta, British Columbia, Ontario and Saskatchewan, 'deserted' wives are paid an allowance, and in British Columbia and Saskatchewan, the wives of inmates of penal institutions are eligible. Under all the statutes except those of Alberta and Saskatchewan, the mother must be a British subject, or the widow or wife of a British subject. Allowances may be paid to foster-mothers under certain conditions in all the provinces but Alberta, Nova Scotia and New Brunswick.

In New Brunswick, Nova Scotia and Quebec, allowances are payable in respect of two or more dependent children, but in New Brunswick and Nova Scotia an allowance is payable for one child under 16 if there is an invalid child over 16 years of age. In the other provinces, allowances are payable in respect of one or more dependent children, but in Manitoba, under the regulations, no allowance is payable in respect of an only child, or an only child under 15 years of age, unless the mother is temporarily or permanently unable to care for the child. In British Columbia, Nova Scotia, New Brunswick, Ontario, Quebec and Saskatchewan a dependent child is a child under 16. In Alberta, a boy under 15 or a girl under 16 is deemed to be dependent. In Manitoba, only children under 15 are regarded as dependent unless they are invalids.

In Alberta the cost of the allowances is divided between the province and the municipalities concerned, and in the other provinces the whole cost is carried by the province.

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No. 334. Wed. August 30, 1939 - War Clouds

As we approach the end of August in this year of our Lord, 1939, the war clouds in Europe are darkening. Carnage seems to be inevitable. Poland according to the most authoritative information, is to become a battle ground. In view of this it will probably be interesting to many people to recapitulate what was said about Poland in the "Fact a Day" on February 18 last.

The modern republic of Poland was proclaimed at Warsaw in November, 1918. The present area of the republic may be estimated at 150,000 square miles, which is considerably larger than the area of the British Isles. In population it occupies sixth place amongst the countries of Europe, coming after Russia, Germany, Great Britain, France and Italy. The capital is Warsaw with a population of over 1,200,000, so that it is one of the great cities of the world.

The country, which was a reconstitution within the limits of the 18th century Polish Commonwealth, had a population in 1931 of over 33,000,000 of whom 22 $\frac{1}{4}$  million are Poles. The constitution of the new Polish state left over 2,000,000 Poles in the neighbouring countries of Russia, Germany and Czecho-Slovakia, while some three million have emigrated to France, Brazil and the United States. With the exception of the Kashubes of Pomorze, who are a relic of the old Pomeranians, the Polish people form one ethnological group. The Poles are more uniform in language and customs than any other great nation.



Although industry has developed rapidly, agriculture is still the predominant occupation. Sixty-five per cent of the people earn their living by cultivation of the soil. The World War caused such devastation in all parts except the western provinces that agriculture received a blow from which it took years to recover. It must be remembered that the war in Poland lasted until 1921.

The greater part of Poland is owned by peasant proprietors. As a political force Communism was killed by Polish nationalism in the Russian war, but Socialism of the Marxian type is important both in politics and in trade unionism. There are important oil wells which Polish enterprise, aided by Canadian experience, has developed. The individual rights of all citizens, including those who are not Poles, have been carefully safeguarded, and free education has been made universal and compulsory. Secondary and university education is conducted on a high level. The leading religious organization is the Greek Orthodox Church, followed by the Lutheran and Calvinist churches. There are close to three million Jews among the inhabitants. The Poles have a highly trained army and a small navy for coastal defence. The training doctrine follows the French line.

The free city of Danzig is within the Polish customs area, free transit for Germany being guaranteed. A purely Polish port has also been constructed at Gdynia, north of Danzig.

Much of the progress made by Poland in the last few years is due to the energy, enthusiasm and good judgment of Jan Paderewski, the world's greatest living pianist, who was president of Poland for some years. This is a reminder that Chopin, the great composer, was a Pole.

Canada's trade with Poland and Danzig is not very large, our imports last year amounting to about one-quarter of a million dollars and our exports to three-quarters of a million. The imports were largely peas, seeds, cotton manufactures, paper, glass, table-wear and furs. Our exports to Poland were predominantly copper. The mention of furs recalls that the reindeer, the sable and the wild horse survive in Poland only in tradition. Bison disappeared in 1918. There are some elk, and beaver is now found only in the marshes of Polesie. Chamois, marmot, wildcat, lynx and the wild boar are still found, but the bear and wolf are uncommon.

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No. 335. Thurs. August 31, 1939 - - The Canada Lynx

A cry has gone up to save the Canada Lynx from extinction. There is danger, it appears, that the Canada Lynx, never so numerous or prolific that he can successfully withstand the onslaughts of recent years, will become only a memory, like other wild animals and birds that have passed away. There is a possibility that he will be viewed only in glass cases in museums.

It seems that in recent years there has sprung up a feverish demand from the world of fashion for the skins of the Canada Lynx. The reason is, says "Forest and Outdoors", because nowhere in all the woods is there to be found a fur so soft and silky, so long and colourful, and flattering.

Of course he may survive here and there in very small numbers, for the Canada Lynx has brains, or at any rate the intuition the Creator provides as a substitute, and intensive trapping has driven him deeper and deeper into the woods, making his capture more difficult than ever. His ability to climb trees and to live for a surprisingly long time without eating will also help him.

Canada is not the only country to produce this remarkable creature. In certain parts of the United States and also in Russia he is to be found, but the Canada Lynx is the most gorgeous of them all. He is in a class by himself. In spite of his awkwardly long legs and high rump he is as graceful and swift in movement as many another animal that is distinguished for grace. He has a flat, almost ugly face, round yellow eyes, tufts of fur under the jaws and pencils of hair on the tips of the ears. When in motion he bounds over the snow in tremendous leaps, his broad, hairy paws supporting him on soft snow that would engulf even a fox.

Here is what fashion has done to the Canada Lynx since his skin became popular. In the season of 1935-36 there were over 22,000 pelts taken and in 1936-37 the number was over 17,000. The Canada Lynx cannot stand that devastation long -- all to suit fashion's fancy. The value of these catches was over \$600,000 in each of the two years.

There have been some attempts to rear the lynx in captivity, but apparently the efforts were not very successful. There were a very few pelts sold from fur farms in 1928, 1930 and 1933. The average value of a pelt is around \$35.

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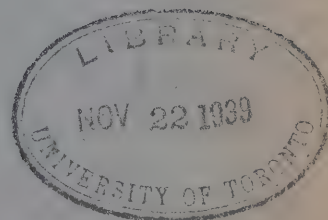
**A FACT A DAY ABOUT CANADA**

FROM THE

**DOMINION BUREAU OF STATISTICS**

**SEPTEMBER 1939**

**FIFTH SERIES**



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James Muir,  
Editor.





from the

Dominion Bureau of Statistics

No. 336. Fri. Sept. 1, 1939 -- The Month of September

September to us is somewhat of a misnomer. As the name implies, it was the seventh month of the old Roman calendar. It is the ninth of the Christian calendar.

Like October, it was temporarily known by other names in honour of Roman emperors. Thus it was named Germanicus, from the surname adopted by Domitian to commemorate his defeat of the Chatti, a German tribe; Antoninus, in honour of Antoninus Pius; and Hercules, from the surname taken by Commodus in allusion to his enormous strength. "September Massacres" is the name given to the wholesale butchery in the prisons of Paris from September 2 to September 7, 1792, when some 1,400 persons were put to death; and the members of the Revolutionary Commune responsible for the massacre were called Septembrists.

Today, the first of September, will be a fateful day in world history for it is reported that the German troops of Herr Hitler have invaded Poland, an independent state since the Great War. This new adventure will have fateful repercussions, for France and the United Kingdom have made an agreement with Poland for mutual assistance against aggression.

Other great events have happened in September. William the Conqueror landed in England in 1066, the discovery of the Pacific by Balboa in 1513, the sailing of the Mayflower from Plymouth in 1620, the banishment of the Acadians in 1755, and the British occupation of Montreal in 1760. American Negroes celebrate Emancipation Day on September 22, the date in 1862 upon which Lincoln made his famous Proclamation of Emancipation.

Amongst the great personages who were born in September were Alexander the Great, Augustus Caesar, Richard the First, Queen Elizabeth, Admiral Nelson, Louis Joliet, Robert Clive, Lafayette, Tintaretto and Anton Dvorak.

The principal holiday in September is Labour Day, which occurs on the first Monday of the month. The flower of the month is goldenrod and the birthstone, the sapphire.

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No. 337. Sat. Sept. 2, 1939 -- The Saar Territory

The Saar Territory, entered by French troops, is an industrial and mining region on the Franco-German frontier, north of Lorraine. It has an area of 737 square miles and a population of over 800,000. The basic industry is coal, good for industrial purposes and gas production, and moderately good for coke, with 31 mines employing 67,000 men.

At the restoration of the Saar Basin to Germany in 1935 the production of coal was over 11 million metric tons, coke nearly two million metric tons, pig iron nearly two million metric tons, steel 2,127,000 metric tons, rolled steel 1,446,000 metric tons. Since that time the statistical figures, separate from the rest of Germany,

have not been available. Next in importance came ceramic, glass and chemical products. The Saar is largely dependent on imports for certain commodities, including food supplies.

Two of the towns prominently mentioned in the war despatches are Saarbrucken and Saarlouis. Saarbrucken owes its name to a bridge which existed in Roman times. It was in the possession of France from 1801 to 1815, when by the Peace of Paris it was ceded to the Allies and made over to Prussia. Saarbrucken has a population of about 130,000. Saarlouis, which has a population of over 16,000, was founded in 1681 by Louis XIV of France. It also, by the Peace of Paris in 1815, was ceded to the Allies and by them was made over to Prussia.

The treaty of Versailles gave France absolute possession of the mines as compensation for destruction of her northern mines during the World War and as part payment toward German reparations. Districts containing these mines were detached from Germany and formed into the Saar Territory. To assure the welfare of the inhabitants and enable France to exploit the mines, an international governing commission, responsible to the League of Nations as trustee, and exercising all powers of government formerly held by the German Empire, Prussia and Bavaria, was instituted for 15 years. This commission had five members, one French, one native non-French inhabitant of the Saar, one British, one Czecho Slovak and one Finnish. At the end of the 15-year period in 1935 the League of Nations instituted a plebiscite by the inhabitants of the Saar as to whether or not they would prefer to return to Germany. The vote was largely in favour of a return and the Saar Territory was accordingly restored to Germany.

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No. 338. Sun. Sept. 3, 1939 --- German Note Circulation

The notes of the German Reichsbank in circulation at the end of August, 1939, amounted, according to the League of Nations Monthly Bulletin of Statistics, to 10,907,000,000 Reichsmarks, as compared with 8,989,000,000 Reichsmarks at the end of July, 1939, and 6,869,000,000 Reichsmarks at August 31, 1938. Thus there has been an increase of 1,918,000,000 Reichsmarks in the note circulation of Germany during the single month of August and of 4,038,000,000 Reichsmarks in the last twelve months. Since the par value of the Reichsmark is approximately 40 cents, this means that the equivalent of \$767,000,000 of our money has been injected into the German currency in the single month of August 1939.

This obviously means that Germany is resorting freely to the printing press for the purpose of financing the war. The effects of this policy will inevitably be felt in the depreciation of German currency and drastic rises in the prices of uncontrolled commodities.

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No. 339. Mon. Sept. 4, 1939 --- Where Germany Has Been Getting Iron

Of vast importance during both peace and war is the iron industry. In utility it transcends all other metals, entering into a tremendous number of activities in our daily life. Its scope is so large and its use so well known that it seems needless to attempt to detail it. It is especially necessary in war time. The largest current customer of the iron and steel industries, however, is the automobile.



Germany, like several of the other leading industrial countries, has not sufficient home production to satisfy her needs and accordingly has been a large importer of iron ore, pig iron and ferro-alloys. Germany's production of iron ore in 1937 was 7,660,897 metric tons and 15,957,364 metric tons of pig iron. Her imports of iron ore in 1938 amounted to 21,927,539 metric tons, pig iron 444,910 metric tons, old and scrap iron 1,146,027 metric tons, along with rough blooms, ingots and bars, ferro-manganese, ferro silicon and other ferro-alloys.

The iron ore was imported from the following countries: Sweden, 8,992,331 metric tons, France 5,056,121, Luxembourg 1,718,049, Newfoundland 1,121,515, Norway, 1,118,065, Spain 1,082,551, Algeria 755,454, Spanish Africa 724,549, British West Africa 461,523, Greece 249,373, other 648,008.

Pig iron was received from the following countries: France 170,891 metric tons, Belgium 86,874, Spain 52,147, British India 34,992, Netherlands 23,534, Great Britain 23,092, Sweden 16,956, Luxemburg 13,291, others 23,143.

Imports of old and scrap iron were as follows: United States 244,842, Great Britain 117,818, Netherlands 93,680, France 82,560, Luxemburg 58,219, Dominican Republic 12,597, Cuba 8,773, Sweden 8,056, others 56,698.

Austria in 1937 produced 1,884,694 metric tons of iron ore and 387,118 of pig iron, while Czechoslovakia produced 1,816,696 metric tons of iron ore in 1937 and 1,650,000 metric tons of pig iron.

No iron ores were mined in Canada for some years, although in the past there was some mining and smelting in Nova Scotia, New Brunswick, Quebec and Ontario. Nova Scotia with its large iron and steel industry, is not a producer of iron ore. The large deposits of high grade ore in Newfoundland are much more readily accessible and of a higher and more constant grade than the iron ore deposits in Nova Scotia.

Iron ore was first mined and smelted in the province of Quebec early in the eighteenth century, and from that time until 1883, the industry was carried on almost continuously at Three Rivers in the St. Maurice district.

More iron ore has been produced in Ontario than in any other province; in northwestern Ontario, about 1899, a deposit of hematite was found. This was the main source of Ontario's iron ore output for a number of years. The province has a large supply of low-grade iron ore, but extensive processing must be applied to make it suitable for commercial use. There has been a revival of iron ore mining in Ontario, since the Helen Mine in northwestern Ontario recommenced in 1939, its shipments going to Sault Ste Marie for smelting.

Different varieties of iron ore are found in various parts of British Columbia, the most important of which are the magnetite deposits which occur on the islands along the coast.

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No. 340. Tues. Sept. 5, 1939 --- Romance of Soya Bean

The products of the linseed and soya bean oil industry last year were of a factory value of \$3,681,000, which was somewhat less than in 1937. These products are mainly raw linseed oil, boiled linseed oil, special linseed oil, linseed oil cake, linseed oil cake meal, linseed meal, soya bean products and soap.

It is within the last decade that the soya bean has been cultivated in Canada, but our imports are still considerably in excess of what we grow ourselves. Last year we imported 1,831,000 pounds of soya beans exclusive of cake, flour and meal, oil for soap and other soya bean products. In Canada there are about 10,000 acres under soya bean cultivation, practically all of it in Ontario.

There is a special romance in the soya bean; the discovery of new uses is a remarkable chemical and metallurgical feat. From the humble soya bean of tropical Asia have been manufactured window frames, gear shift knobs, horn buttons and electrical parts for automobiles. It also goes into automobile enamel. People were thrilled when we began to make vegetable ivory from nuts got in Brazil, to take the place of the rapidly diminishing supply of natural ivory, but the interest in the soya bean discoveries is even greater. How far it will go in taking the place of steel is a question.

It is said that the cost of soya bean plastics is greater than steel per pound but the finishing of steel brings the final cost of many steel parts in excess of that for the finished product manufactured from the soya bean material.

The soya bean has a great variety of uses. It is a source of oil for margarine and soap. In Japan they make from it concentrated milk, flour and piquant sauce; in China, flour, milk, bread and cheese; in Cochin-China, milk, cheese and casein.

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No. 341. Wed. Sept. 6, 1939 --- Where Germany Has Been Getting Copper

It is not only interesting but certainly important to Canadians to know definitely where Germany stands in relation to her industrial production. It is important to know what an effective blockade of Germany by sea may accomplish.

For Germany is an outstanding example among industrial nations of a country whose domestic economy and industrial progress are dependent on foreign trade --- maximum exports of manufactured products to offset necessary imports of raw materials.

Germany has no adequate foreign credits and, in the absence of these, has been developing a foreign trade based upon the principle of purchasing raw materials, which are necessary to her, from those countries that are willing to accept German products as payment.

As a result Germany's import trade has shifted considerably from some countries to others. This change and the dependence of Germany upon the importation of certain important raw materials, which that country must have, may be illustrated by the record of rough copper.

In 1937 Germany produced 65,500 long tons of copper. In 1938 Germany imported 272,400 metric tons of rough copper and alloys. Where did she get it? From Rhodesia 76,500, United States 62,330, Chile 40,007, Belgian Congo 39,931, Canada 18,995,



Finland 13,030, Yugoslavia 7,011, Sweden 6,244, Belgium 5,932, others 2,420.

Besides the rough copper, Germany in 1938 imported copper, including burnt cupreous pyrites, to the amount of 655,931 metric tons, as follows: from France 155,869, British possessions in Mediterranean 141,481, Netherlands 114,287, Belgium 53,711 Denmark 50,289, Norway 36,077, United Kingdom 32,055, Spain 26,563, Eire 11,043, others 32,556.

There were also 27,308 metric tons of copper coin and scrap imported by Germany as follows: United States 11,452, United Kingdom 8,839, Sweden 1,637, Netherlands 1,261, Denmark 934, Australia 886, others 2,299.

In 1932, six years before, British South Africa supplied Germany with 19 per cent of the latter's total imports of rough copper, whereas in 1938 the quantity from the same country was 28 per cent; the quantity from the United States rose from 16 per cent to 23 per cent; Chile from 13 per cent to 15 per cent, Belgian Congo from 14 per cent to 15 per cent. However, from Belgium the amount dropped from 12 per cent to two per cent; from Yugoslavia from 11 per cent to three per cent and from other countries from 15 per cent to 14 per cent.

The total production of copper in Czechoslovakia in 1937 was 599 long tons, and in Austria 2,000, but none is reported from Poland. The production of copper in Russia in 1937 was 90,000 long tons.

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No. 342. Thurs. Sept. 7, 1939 --- Where Germany Has Been Getting Tungsten

The metal tungsten is a strategic mineral of primary importance because of certain valuable qualities it imparts to steel when alloyed with it. Its principal use at the present time is in the manufacture of high-speed tool steels so essential for the rapid production of all forms of projectiles, ordnance and similar munitions. Tungsten enters into the manufacture of armour plate, armour piercing projectiles, gun liners and aeroplane engines. It is also used in filaments for electric light bulbs and radio tubes. Alloyed with aluminium it is employed in automobile construction, and with aluminium and copper in propeller blades. It is an important constituent of the alloy called 'Stellite'.

China is the principal source of tungsten, contributing about half of the world's supply. It is a Government monopoly in that country. The Sino-Japanese hostilities commencing in August, 1937, caused concern in the world market regarding continuation of supplies from that source. However, as none of the largest area where tungsten is mined has been affected in any way, the principal result of the Japanese invasion was a re-routing of the flow of concentrates.

About one-quarter of the world's supply comes from the British Empire, notably Burma, but the production of British Malaya, Australia and British Africa is of growing importance. The United States, Sweden, Egypt, French Indo-China, Korea and Portugal are the largest producers amongst other countries.

There is no production in Germany listed by the Imperial Institute. Germany, therefore, is a large importer of tungsten. In 1938 it was receiving its supply from the following countries: China 8,962 metric tons, Burma 1,295, Bolivia 761, Australia 715, Portugal 658, British India 471, British Malaya 407, others 931.

Germany in 1937 was the largest importer of tungsten of any world country, totalling 11,192 long tons. The United Kingdom imported 8,676 long tons, and Russia 2,179. In 1938 Germany increased its importation to 14,200 metric tons.

Several deposits of tungsten-bearing minerals are known to occur in Canada but only comparatively small shipments of tungsten ores have been made. In 1938 there were 30 tons of ferro-tungsten valued at \$69,806 consumed in Canada in the manufacture of steel.

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Note: A long ton contains 2,240 pounds, a metric ton 2,204.6 pounds, and a short ton, which is used almost invariably in Canada, 2,000 pounds.

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No. 343. Fri. Sept. 8, 1939 -- Today's Fish Story -- Canadian Fisheries Production.

With war upon us it is well to take stock of ourselves and see what our resources are in many particulars. One of these is our fisheries. Canada's fisheries production gained in value last year, totalling \$40,562,000 compared with \$38,976,000 in 1937. These totals represent the value of the fish as marketed, whether sold for consumption fresh, or canned, smoked or dried. The sea fisheries contributed \$33,827,000 or 83 per cent of the total production, while the inland fisheries accounted for \$6,725,000, or 17 per cent.

Fish of all kinds, including shellfish, but excluding seals, belugas, whales, dulse and seaweed, landed during 1938 amounted to 10,741,340 cwt. with a value at the point of landing of \$22,838,000. This compares with a catch of 10,918,048 cwt. and a landed value of \$23,193,000 in 1937.

By reason of her great salmon fishery, British Columbia is first among the provinces in order of marketed value of fisheries production, with a total in 1938 of \$18,726,000, or 46 per cent of the total output for the Dominion. For the other provinces, the value in relation to the total output was as follows: Nova Scotia 22 per cent, New Brunswick 10 per cent, Ontario 8 per cent, Quebec 5 per cent, Manitoba 5 per cent, Prince Edward Island 2 per cent, Alberta one per cent, Saskatchewan one per cent, and the Yukon Territory one-tenth of one per cent. Compared with 1937, increases in value of output are shown for British Columbia, Quebec, Manitoba, Prince Edward Island, and Alberta, and decreases for the remaining provinces and Yukon Territory.

Salmon, the principal fish caught in Canadian waters, showed an increase over the preceding year of 42,515 cwt. and a gain in value of \$2,675,166. The pack of salmon in 1938 totalled 1,708,835 cases valued at \$12,274,863 compared with 1,509,520 cases valued at \$9,268,404 in 1937. Salmon is marketed chiefly as canned, although a considerable amount is sold fresh for consumption, and smaller quantities are marketed as mild cured and dry salted.

Next in importance is the lobster fishery, with a marketed value of \$3,793,219, and following are cod valued at \$3,335,231, and herring worth \$2,487,231. Other kinds of fish having a marketed value of a million dollars or more in 1938 were halibut, whitefish, sardines, haddock, trout and pickerel.

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No. 344. Sat. Sept. 9, 1939 -- Record Gold Production

Late this evening the Parliament of Canada, in special session, declared this country in a state of war with Germany. Gold will play an important part in this war and Canada's part from that point of view alone will be notable.

The quantity and value of gold produced in Canada in 1938 were the greatest ever recorded in the history of the Canadian mining industry; the amount from all primary sources totalled 4,725,117 fine troy ounces valued at \$166,205,990 compared with 4,096,213 at \$143,326,493 in 1937. Of the total output in 1938 the mines of Ontario contributed 2,896,477 fine ounces, Quebec 881,263, British Columbia 605,617 and Manitoba 185,706; lesser quantities were recovered in the Yukon, Saskatchewan, Nova Scotia, the Northwest Territories and Alberta.

According to preliminary statistics of world production, Canada ranked third as a gold producing country in 1938, being surpassed in output by only the Union of South Africa and Russia; the mine output of recoverable gold in the United States in 1938, and not inclusive of the Philippine production, was reported by the United States Bureau of Mines, in a preliminary statement at 4,243,712 fine ounces.

The total production of gold in the world since the discovery of America has been estimated at 1,294,935,511 fine ounces; production in the United States since 1792 at 249,850,780 fine ounces; production in the Transvaal since 1884, the commencement of the fields, 340,091,604 fine ounces, and 65,131,533 fine ounces valued at \$1,650,506,113 in Canada since the first recording of gold statistics in 1858.

The estimated average price per ounce of fine gold, expressed in Canadian currency, was \$35.17 in 1938 compared with a price of \$34.99 in 1937. Practically all of Canada's newly-mined gold bullion is sold to the Dominion Government through the Royal Canadian Mint at Ottawa or the Assay Office at Vancouver. This gold is refined, converted into fine gold bars weighing approximately 400 ounces each, and is disposed of in world markets wherever the most advantageous net price can be obtained.

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No. 345. Sun. Sept. 10, 1939 -- Early Agriculture in Canada

The Canada Year Book for 1939, a leading annual publication of the Dominion Bureau of Statistics, is ready. As usual there are some very informative articles in it. Amongst them is one by Dr. G. S. H. Barton, Deputy Minister of Agriculture, on Early Agriculture in Canada.

The actual beginning of agriculture in Canada cannot be stated definitely, as crude attempts at cultivation by the native Indians were reported by the earliest recorded visitors to the country, writes Dr. Barton. Jacques Cartier in 1535 reported that the Indians around Hochelaga, at the foot of Mount Royal, where Montreal now stands, were cultivating small patches of land for the production of maize. The Huron Indians, living in the area close to Lake Huron and Georgian Bay, are also reported to have been growing corn, peas, and beans when first visited by the white adventurers.

Since the arrival of the first French colonists in Acadia, Canadian agriculture has gone through several rather distinct stages: the early settlements in the Maritime Provinces and Quebec with comparatively slow development until 1750; from 1750 to 1850 settlement of Upper and Lower Canada was in full swing and agricultural

growth was steady if not rapid; after Confederation and the completion of the Canadian Pacific Railway in 1886, the development of Western Canada was rapid and agriculture in Eastern Canada went through a period of readjustment in the light of development in the western provinces.

Historical information dealing with the first period of settlement is found chiefly in the reports of early visitors to the country and early records of settlement schemes. The first recorded white settlement in Canada was at Port Royal, now Annapolis, Nova Scotia, by a group of French pioneers in 1605. Here the settlers cleared and cultivated small plots of land on which they grew maize, pumpkins, and beans. Cows were brought out by Poutrincourt in 1606. The first real farmer is said to have been Louis Hebert, who started farming in 1617 on the site of what is now Quebec City. Agriculture in Upper Canada (Ontario) was also introduced by the French, the first settlement being established by Frontenac at Kingston, in 1671.

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No. 346. Mon. Sept. 11, 1939 -- Economic Conditions in Canada

It is important that Canadians know exactly what the economic conditions of the Dominion were at the beginning of war. Here they are:

A strong position was maintained by the chartered banks. The readily available assets averaged 10 per cent higher than one year ago, while security holdings were nearly four per cent greater, and an increase of  $4\frac{1}{2}$  per cent was shown in the sum of the notice and demand deposits. An advance in current loans continued during the first eight months of the present year, averaging nearly 6 per cent greater.

A gain in business operations was an important factor in the improved economic conditions of the present year. The index of the physical volume of business averaged 117.9 against 109.8 during the same period of 1938, a gain of 7.4 per cent. Each of the five main divisions recorded advances in this comparison.

The index of mineral production rose from 192.9 to 214.4, a gain of more than 11 per cent. The increase in nickel exports was  $16\frac{1}{2}$  per cent while a gain of 3.3 per cent was shown in the outward shipment of copper. The increase of gold shipments to the Mint and external points was nearly 13 per cent, the total in the first eight months of 1939 having been 3,381,464 fine ounces against 2,994,141. Silver shipments, on the other hand, showed a decline of more than 9 per cent. Coal production during the first eight months was 9.0 million tons against 8.7 million one year ago.

The index of manufacturing production rose 7.6 per cent from 103.2 in the first eight months of last year to 111.0. The amount of sugar manufactured rose from 407.8 million pounds to 489.4, a gain of nearly four per cent. The cotton textile industry was more active, having used 74.5 million pounds of raw cotton against 71.6 million. Substantial gains were also shown in the operations of the forestry group. The output of newsprint rose more than 7 per cent to 1,805,669 tons. The lumber industry was more active, exporting 1,363,000,000 feet, a gain of  $27\frac{1}{2}$  per cent. Recent gains in the output of the primary iron and steel industry were not sufficient to counterbalance the deficit in the early months of the year. Steel ingot production was 813,000 long tons against 837,000 last year, a decline of nearly 3 per cent. The production of pig iron dropped from 505,000 tons to 422,000.

The imports of crude petroleum and rubber recorded considerable gain in the last eight months, while the output of automobiles was considerably lower. The output was



106,365 units against 117,617 in the same period of 1933. The construction industry was more successful in obtaining new business, the aggregate of contracts awarded recording a gain of 6 per cent while building permits were 4.6 per cent larger. The expansion in the electric power industry was continued, the output having been 18.2 billion k.w.h. against 16.8.

A constructive feature was the expansion in the export trade of the Dominion during the first eight months of the present year. The total was in excess of \$670,000,000 against about \$581,000,000 a gain of more than 15 per cent. Imports, on the other hand, showed a minor decline, the amount having been \$442,000,000 against \$450,000,000. The railway freight movement was slightly heavier, the total having been 1,536,000 cars against 1,528,000. The gross revenue of the Canadian lines of the Canadian National Railway recorded a gain of 3.8 per cent, while the gross revenue of the Canadian Pacific rose two per cent.

The general index of employment averaged, for the first nine reporting dates, slightly higher than in the same period of 1938. The index was 110.9 against 110.8 on year ago. Manufacturing and logging recorded declines while mining, construction and trade were at a higher position.

No. 347. Tues. Sept. 12, 1939 -- Canada's Imports Just Prior to War

With the publication of the August imports by Canada from the various countries of the world, there draws almost to a close the record of commerce of the Dominion prior to the outbreak of hostilities in Europe, so that the August figures show the commerce in its peace time complexion. As a guide, therefore, to trade conditions prior to the war, the imports from countries within and without the British Empire are given below in some detail.

The total imports to Canada in August amounted to \$62,708,079 compared with \$57,026,268 in August, 1938. Imports from the Empire and other countries showed an increase. From the Empire they rose to \$17,309,065 from \$15,960,585, and from other countries to \$45,399,014 from \$41,065,683.

It should be remembered that while Canada has important commercial relations with almost all countries of the world, her trade with the United Kingdom and the United States is very considerably in excess of that with all other countries. In August the imports from the United Kingdom amounted to \$10,864,871 compared with \$10,371,781, and from the United States \$39,383,830 compared with \$35,263,952.

The imports from other Empire countries in August were as follows, with the figures of a year ago in brackets: Eire, \$365 (\$581); Burma, \$69,541 (\$23,844); Aden, \$57 (nil); British East Africa \$182,955 (\$59,424); British South Africa, \$518,546 (\$56,915); Southern Rhodesia, \$22 (\$734); Gold Coast, \$6,591 (\$12,559); Nigeria, \$612 (\$4,986); Sierra Leone, \$676 (nil); Bermuda, \$3,038 (\$2,289); British India, \$822,384 (\$515,145); Ceylon, \$349,536 (\$294,602); Straits Settlements, \$883,717 (\$804,468); other British East Indies, \$5,736 (\$4,635); British Guiana, \$586,454 (\$401,414); British Honduras, \$2,039 (\$1,243); British Sudan, \$2,304 (\$8,177); Barbados, \$671,151 (\$38,624); Jamaica, \$613,364 (\$1,489,474); Trinidad and Tobago, \$229,893 (\$209,089); other British West Indies, \$171,994 (\$203,161); Hong Kong, \$46,918 (\$52,417); Malta, \$1,401 (nil); Newfoundland, \$151,274 (\$342,859); Australia, \$721,983 (\$526,848); Fiji, \$326,819 (\$336,057); New Zealand, \$73,182 (\$198,295); Palestine, \$1,592 (\$964).

Imports from other countries were: Argentina, \$372,991 (\$69,566); Belgium, \$660,135 (\$464,313); Brazil, \$124,495 (\$131,446); Bulgaria, \$627 (\$129); Chile, \$10,916 (nil); China, \$138,050 (\$170,826); Colombia, \$435,510 (\$626,313); Costa Rica, \$6,737 (\$7,334); Cuba, \$25,541 (\$43,452); Czecho-Slovakia, nil (\$297,804); Denmark, \$13,057 (\$16,620); Greenland, nil (\$1,984); Ecuador, \$383 (\$2,952); Egypt, \$63,451 (\$17,091); Estonia, \$2,095 (\$1,472); Finland, \$7,335 (\$6,722); France, \$813,065 (\$543,133); French Africa, \$4,384 (\$8,693); French East Indies, \$6,587 (\$19,019); French Guiana, \$462 (nil); Germany, \$1,006,593 (\$1,037,117); Madagascar, \$1,372 (nil); St. Pierre and Miquelon, \$1,405 (\$518); Greece, \$5,047 (\$1,164); Guatemala, \$12,015 (\$3,343); Haiti, \$80 (\$7,782); Honduras, \$325 (nil); Hungary, \$13,031 (\$9,911).

Imports from Iceland, \$66 (\$50); Iraq, \$6,921 (\$2,706); Italy, \$146,030 (\$198,151); Japan, \$414,203 (\$404,884); Latvia, \$699 (\$2,149); Mexico, \$6,105 (\$3,095); Morocco, \$2,706 (\$15,672); Netherlands, \$373,157 (\$392,007); Dutch East Indies, \$56,832 (\$69,796); Norway, \$48,782 (\$57,617); Panama, \$23,793 (nil); Paraguay, \$3,597 (nil); Persia, \$8,416 (\$10,660); Peru, \$2,461 (\$305,165); Poland and Danzig, \$23,558 (\$19,620); Portugal, \$15,526 (\$27,417); Azores and Madeira, \$14,855 (\$18,345); Portuguese Africa, \$388 (nil); Roumania, \$3,026 (\$3,530); Russia, \$77,789 (\$45,689); Salvador, \$8,641 (\$2,476); Siam, \$50 (nil); Spain, \$63,620 (\$35,790); Canary Islands, \$926 (\$1,325); Sweden, \$203,013 (\$147,374); Switzerland, \$294,144 (\$254,452).

Imports from Turkey, \$21,896 (\$25,379); Alaska, \$15,437 (\$2,614); American Virgin Islands, \$52 (nil); Hawaii, \$34,080 (\$18,403); Philippines, \$30,544 (\$16,974); Porto Rico, \$48 (\$1,232); Uruguay, \$5,095 (\$25,359); Venezuela, \$379,991 (\$201,053); Yugoslavia, \$3,048 (\$4,043).

#### No. 348    Wed. Sept. 13, 1939    Feed Grains and Root Crops for First Year of War.

Supplies of feed grains in Canada for 1939-40 are somewhat greater than a year ago and the most evenly distributed in a number of years. Increased production together with larger stocks has resulted in a supply of 11.8 million tons compared with 10.9 million at the beginning of last season. These are the largest supplies recorded since the 1930-31 season. Although the number of grain-consuming animals is higher than a year ago, the increase in supplies of feed grains has been greater. Supplies per grain-consuming animal for 1939-40 are estimated at 0.74 tons compared with 0.72 tons in 1938-39.

Any increase in flour production during 1939-40 will make available larger supplies of millfeeds. The output of millfeeds in 1938-39 was the largest since 1930-31. For 1939-40, prospects point to at least as large an output as in 1938-39.

While the 1939 production of hay and clover fell below 1938, increases in production of other fodder crops partly offset this decline. Fodder supplies per hay-consuming animal for 1939-40 are estimated at 2.02 tons compared with 2.07 in 1938. Fodder production in the Western Provinces in 1939 was greater than in 1938, but lower yields of hay and clover were obtained in the Central and Maritime Provinces.

Feed prices advanced sharply in the first two weeks of September but lately have shown a tendency to decline. In September, feed prices averaged 32 per cent



higher than in August. While the advance in live-stock prices has not been as great, rising only 12 per cent from August to September, the relationship between live stock and feed grain prices is still relatively favourable to the live stock producer.

The Canadian farmer has done a good job of replenishing the national larder, according to the first estimate of late crops, a matter of extreme importance with Canada at war.

The 1939 potato crop is estimated at 38,875,000 cwt., representing a gain of eight per cent over last year's small production of 35,938,000, turnips and mangolds, etc., 37,158,000 cwt. compared with 38,160,000, mixed grains 42,609,000 bushels against 39,161,000, husking corn 7,566,000 bushels against 7,690,000, peas 1,309,000 bushels against 1,365,000, beans 1,447,000 bushels compared with 1,557,000 fodder corn 4,352,900 tons compared with 4,412,800, alfalfa 2,264,000 tons compared with 2,061,000.

Sugar beet production aggregated 628,000 tons, an increase of 19 per cent over last year's production of 527,000. This year's crop establishes a new record for Canadian sugar beet production.

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No. 349. Thurs. Sept. 14, 1939 -- Added Importance of Canned Food

With Canada at war, the canned food industry becomes of increased importance. Its development in the Dominion since the beginning of the century has been remarkable. In 1900 the total value did not exceed \$8,250,000, whilst in 1930 it had increased to more than \$55,000,000 or six and one-half times as much. In 1933 the value of production dropped to \$33,000,000, and rose again to nearly \$55,000,000 in 1936 and to \$62,194,905 in 1937.

The principal commodities used in the canning industry are fish, fruits and vegetables, milk and meats, whilst the industry itself forms an adjunct of considerable importance to other industries, notably the tin can industry, the wooden box industry and the paper and printing industries. The development of the canned foods trade has effected great changes in the relation of foods to seasons. Fruits and vegetables of many kinds are to be had at all times of the year, not always with the flavour of the freshly gathered product, but with much of their original freshness and flavour. The producers in the country are provided with an enormously extended market, and the consumer in both city and country with cheap and wholesome food in great variety. The consumer is also protected by the inspection services of the Department of Agriculture and the Department of Fisheries, Ottawa.

The gross value of production in 1937 was almost \$78,000,000 at factory prices, and the exports in that year aggregated about \$20,000,000.

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No. 350. Fri. Sept. 15, 1939 -- Today's Fish Story - Mutton Fish

The Muttonfish, a species which occurs in considerable numbers along the Dominion's Atlantic coast, would be available as a food fish should conditions ever make it necessary to add to the many popular varieties now marketed by the Canadian fishing industry.

The muttonfish is rather a peculiar looking fellow externally but its flesh makes good food - white, firm, and of excellent flavour. The body of the fish is compressed and tapers toward a very narrow pointed tail fin. The head is slightly depressed and relatively large in the older specimens. The mouth is large, and the jaws bear strong, blunt, conic teeth. The dorsal fin, or the fin on the back of the fish, is very long, and the narrow tail fin extends forward on the underside of the fish for about one-half the body length. In the mature fish the colour is brownish, mottled with brown and black. The scales, appearing as small light dots, are very small, inconspicuous and do not overlap. The younger fish are lighter in colour than the ~~adults~~, according to a description of the fish given by scientists of the Federal Fisheries Research Board.

Scientifically, the fish is known as *Zoarces anguillaris*. *Zoarces* is a Greek word meaning viviparous, and this is a key to an interesting habit of the species for it means the fish give birth to living young.

Like the lumpfish, the muttonfish has many aliases. Various common names such as eel-pout, conger-eel, rock-eel, and so forth have been given it in different localities. The superficial resemblance to an eel in the tapering body accounts for the use of the word "eel" in some of the combination names (and for *anguillaris* in the scientific name), but actually the muttonfish is in no way related to the eel family, and, in the older individuals, bears little definite resemblance to the eels other than the tapering body.

The fish ranges from the St. Lawrence down to the United States, but, again like the lumpfish, "summer-resorts" in the Bay of Fundy and adjacent waters and can be found fairly abundantly in the bay during summer months. It comes close in-shore and can be taken with hand lines, seines, and trawls. Around Miramichi Bay on the New Brunswick coast quite large numbers have been found in lobster traps. In summer the muttonfish are usually found in depths of from 15 to 30 fathoms, but in the fall and winter months they migrate to deeper waters.

The European muttonfish, an allied species, gives birth to living young during the winter months and it is assumed the Canadian species has similar habits though this point is as yet not wholly established. Females produce about 1,800 young at spawning time but enemies such as sculpins, sea-ravens, and skates prey upon the muttonfish nurseries voraciously. In turn, however, the muttonfish, a bottom feeder but not a scavenger, preys upon sea urchins, barnacles, crabs, and small clams.

Under present conditions the Canadian fishing industry is amply able to supply market demands with the better known varieties of fish, and there exists no particular reason for exploiting the muttonfish stocks at this time. The species is an acceptable food fish, however, and may well be designated as a reserve food-fish in the Canadian sea fisheries population.

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No. 351. Sat. Sept. 16, 1939 -- Canada's Production of Coal

In this part of Canada at least, when for domestic purposes we use so much imported anthracite, we are apt to forget that this Dominion is an important producer of coal. Look at this year's figures.



Canada's coal production in August totalled 1,238,171 tons as compared with 1,012,901 in August last year, while the five year average for the month was 1,079,158 tons. During the month, 1,072,362 tons of bituminous coal were produced, along with 24,274 tons of sub-bituminous and 141,535 tons of lignite. The cumulative production of coal for the eight months ended August aggregated 9,110,947 tons as compared with 8,770,014 in the same period of 1938.

Canada imported 1,628,296 tons of coal in August compared with 1,463,919 in August, 1938, and 1,553,279, the average for the month during the past five years. Anthracite coal imports totalled 342,840 tons, of which the United States contributed 144,173 tons, Great Britain 134,191 and Germany 64,476. Receipts of bituminous coal consisted of 1,276,820 tons from the United States and 8,556 from Great Britain.

Exports of Canadian coal declined to 25,042 tons from August, 1938 total of 34,522. Coal made available for consumption in August was estimated at 2,841,425 tons compared with 2,442,298 a year ago.

Production of 190,723 tons of coke in August compares with 189,254 in July and 182,368 tons in August 1938. The eight month output aggregated 1,502,790 tons as compared with 1,614,427 tons for the period ending August 31, 1938.

#### No. 352. Sun. Sept. 17, 1939 - Russia Enters the Picture

Today Russian troops entered Poland from the East and began the march to meet German forces which had invaded Poland from the north, west and southwest.

Some concern has arisen concerning the possible contribution of Russia in commodities to the war resources of Germany and this concern is natural enough when the enormous extent and undoubted natural resources of Soviet Russia are taken into consideration.

Nevertheless, undeveloped natural resources cannot be utilized in carrying on an existing war, and the fact is that the exporting power of Russia, in spite of her enormous population and her enormous resources, is comparatively limited.

Thus according to the League of Nations, the total exports of Soviet Russia in 1937, the latest year for which the Russian figures are available, were only 29 per cent of the exports of Canada in the same year.

In other words, Canada's exports were more than three times as large as those of Russia.

Again, exports have to be paid for either with gold or with goods. Now Germany has little gold with which to pay for Russian goods, while her current production of commodities must be almost wholly absorbed in meeting her own needs for war and for the subsistence of her own people.

Finally, neither of the countries is now in any position to advance any large amount of credit to the other. Thus we should not exaggerate the amount of economic assistance that Russia is in a position to extend to Germany, however willing she may be to do so.

No. 353. Mon. Sept. 18, 1939 -- Honey, An Important Food

Under the emergency of war it becomes imperative that producing power be not allowed to deteriorate; especially does this apply to food production, and honey is an important food.

The active season for the honey bee is practically over, the sources of nectar and pollen are rapidly disappearing and there is little or nothing the bees can collect from the fields, states the Dominion Apiarist. During the summer months these industrious little insects worked diligently and well to gather all available supplies, but now most of these supplies have been taken from them as honey. For the next seven months the bees will be on relief, absolutely dependent upon their owners for food and shelter. Unfortunately, there is a tendency to rob the bees too closely in the fall, taking a chance of enough being left to carry the bees through the winter. Surely this is a short-sighted policy and hundreds, possibly thousands of colonies die or become seriously weakened every year because of it.

Every colony of bees put away in winter quarters during the fall of 1939 is a potential producer in 1940, therefore, every colony put into winter storage should go in, in such a condition that it may be taken out next spring as a producer and not as a boarder. Every colony should contain at least forty pounds of food when it is ready for winter, any amount in excess of this is, of course, extra assurance against starvation.

It is far better to find strong colonies with a surplus of food in the spring than it is to find them dead or depleted.

The complete supply of winter food should be given during the latter part of September or early in October, depending upon weather conditions, and should consist of first grade honey or a syrup made up of two parts best white sugar to one part of water. In addition to a plentiful supply of food, the bees will require protection from cold and changeable weather, this can be provided by placing the bees in a suitable cellar or dug-out, or by packing them snugly in winter cases. A suitable cellar is one that can be kept dark, dry and at a uniform temperature of about 45 degrees Fahrenheit throughout the winter.

Winter cases may be made to take one or more colonies, but they must be large enough to allow for four inches of packing material on the bottom and all four sides of the colony, and also for six to eight inches on top. A good windbreak on at least three sides of the apiary is also very important. Outdoor wintering cases must be provided with entrances so that the bees may take flight whenever they desire to.

Last year the honey crop was not only a record one of over 37 million pounds but it was also of very good quality. Canadian honey markets well in the United Kingdom.

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No. 354. Tues. Sept. 19, 1939 -- Uses of Honey

Yesterday we had said something about honey, and it might be useful to add a word or two about its uses, for the air is full of rumours about a shortage of sugar. These rumours apparently have arisen because of a rush of buying by nervous householders.

Honey is a super-saturated solution of sugars and as such may be satisfactorily used to replace other sugars in cooking, canning or preserving, provided certain



general rules are followed. Honey and sugar differ in that sugar is a sweet containing no moisture or acid, while honey consists of different kinds of sugars in solution with water and contains a small amount of acid, explains the Dominion Apiarist. Perhaps the chief advantage of substituting honey for sugar in cooking is that the final product will remain moist for a much longer time than if sugar alone is used. Bread, cakes, cookies, and other comestibles in which honey is used in place of sugar will keep moist for long periods of time without any deterioration of flavour; in fact the flavour will usually improve with storage.

Honey may replace all sugar in cases where the amount of sweetening material is small, such as in muffins and bread. The following rules are based on experimental work that has been done at the Central Experimental Farm, Ottawa, with honey in cooked foods, and by following these rules any recipe may be adapted to the use of honey.

1. Measure honey always in the liquid form. If it is granulated, heat over warm water until it is liquid. 2. For every cup of honey used, reduce the liquid called for in the recipe by one-fifth. 3. One cup of honey is as great in sweetening power as one cup of sugar. 4. Use  $\frac{1}{4}$  to  $\frac{1}{2}$  teaspoon of soda to each cup of honey. 5. Increase the amount of salt by  $\frac{1}{8}$  to  $\frac{1}{4}$  teaspoon. 6. When substituting honey for sugar in cake, reduce the liquid of the recipe by one-fifth and use half honey and half sugar. Fruit cake is an exception to this rule and all honey may be used. 7. In milk puddings, pie fillings, and such like, add the honey with the thickening agent, e.g., flour or cornstarch.

It should be remembered that honey from different sources varies greatly in flavour. Generally speaking, the lighter the colour of honey the milder is its flavour.

Experiments have also been conducted with satisfactory results on the use of honey in canning. In the manufacture of ice-cream, honey may be used in the place of sugar, and in addition the honey will impart a flavour of its own, so that no other flavouring need be used. Honey may be used in many other ways, and housewives who are interested in it as a substitute for sugar are advised to write the Publicity and Extension Division, Dominion Department of Agriculture, Ottawa, Ont. for copies of pamphlets which are issued free.

It might be added that mead, the ancient English wine, is made with honey.

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No. 355. Wed. Sept. 20, 1939 -- Role of the Canadian Farmer

Ten days ago, it was mentioned that Louis Hebert established the first farm in Canada 322 years ago, on the site of Quebec City. Not in the wildest flight of imagination could he have visualized what Canada's agricultural development was to mean to the world. What it is to mean to the Empire in the present conflict has been clearly pointed out by the Minister of Agriculture.

"Not for many years," he states, "has there been an autumn when a most careful survey of the whole farm project may be more vitally important from national as well as self-protective considerations. We shall be too busy to do this next spring. It may be too late next fall."

The farmer is urged to plan for a greater acreage of feed grains as there will naturally be an increased demand for beef and dairy cattle, hogs and poultry. Bacon, hams and fats are bound to be required in greater volume as the war continues. The

early securing of seed supplies of special kinds of disease-resistant wheat, oats, barley and disease free seed potatoes would avoid any shortage, as even in normal times such supplies are limited.

The farmers all across Canada are reminded that the Dominion Department of Agriculture through its field men, inspectors, district officers, and experimental farms, will be glad to consult with them this fall as to the nation's requirements in the difficult days ahead.

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No. 356. Thurs. Sept. 21, 1939 -- Pulp and Paper Industry

In Europe they are conserving their supplies of pulp and paper. Newspapers are cutting down the size of their issues. There is no scarcity in Canada.

The pulp and paper industry has headed the list of manufacturing industries in net value of production since 1920, and in wage and salary distribution since 1922, replacing the sawmills in both cases. It was first in gross value of production from 1925 when it replaced the flour mills, until 1935 when it was overtaken by the non-ferrous metal smelting and refining group.

The gross value of production of wood pulp and paper in 1938 was \$183,898,000, representing a decrease of 18.7 per cent from 1937, but an increase of 49 per cent over 1933, when production reached its lowest level.

This gross value represents the sum of the values of pulp made for sale in Canada, pulp made for export, and paper manufactured. It does not include pulpwood nor pulp made in combined pulp and paper mills for their own use in making paper. The net value of production in 1938 was \$89,034,000, compared with \$106,002,000 in 1937.

Wood pulp exports during the calendar year 1938 amounted to 554,037 tons with a value of \$27,730,738 as compared with 870,716 tons valued at \$41,815,731 exported in 1937, marking decreases of 36.4 per cent in quantity and 33.7 per cent in value. Imports of wood pulp dropped 19.4 per cent from 21,053 tons in 1937 to 16,979 in 1938. All imported wood-pulp came from the United States.

The exports of paper and paper goods during the calendar year 1938 were valued at \$112,872,776 as compared with \$136,164,158 in 1937. These exports were made up chiefly of newsprint paper, 2,424,654 tons valued at \$104,615,042 being exported, of which 1,938,296 tons valued at \$85,190,912 went to the United States. Since 1937 Canada's exports of newsprint have surpassed those of wheat, which was formerly the leading commodity exported. For a number of years Canadian newsprint exports have been greater than those of the rest of the world combined. In 1938 newsprint exports showed a decrease in quantity of 29.8 per cent, and a decrease in total value of 17.3 per cent from the 3,455,239 tons valued at \$126,466,412 which were exported in 1937. During 1938 the total value of paper and paper goods imported was \$7,520,328, a decrease of 5.8 per cent from the imports of 1937.

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No. 357. Fri. Sept. 22, 1939 -- Today's Fish Story -- A Run of Herring

Herring made a sad mistake last winter when they decided on a mass movement through Kwakshua Pass into the inshore waters of British Columbia. As a result,



33,000 tons of them - tons, not pounds or hundredweights - found themselves turned into meal and oil at fish reduction plants.

Largely because of what happened at Kwakshua, a stretch of water eight miles long at the north of Calvert Island, British Columbia's total landings of herring in January and February increased by nearly 255 per cent and the production of herring meal by 278 per cent.

In January-February, 1938, the landings from British Columbia herring areas were about 14,925 tons, but in the two '38 months the catch was 52,960 tons. Herring meal produced in the earlier period amounted to slightly more than 2,700 tons but this year the January-February output reached 10,250 tons.

The situation at Kwakshua was remarkable. The pass had never before been the scene of herring seining or, at all events, never the scene of seining on more than a small scale. This year it was filled with fish.

"I have never seen such a volume of herring in any area on this coast", wrote the master of the federal fisheries vessel Givenchy after he had seen the run at Kwakshua in January.

The herring in the pass were discovered by a scouting seine boat, which had not been having very good luck in finding fish in other areas. (Between the devil and the deep blue sea, they were discovered, too, by hungry Hump-back whales and dogfish and blue sharks and sea lions. Whales stationed themselves at both the outer and inner entrances, looking for free meals and probably finding plenty. The sharks and dogfish went foraging swiftly within the pass and incidentally did quite a bit of damage to the fishermen's nets). The word of the 'gold strike' soon travelled, of course, and seine boats, and packers to carry the catches to the reduction plants, came into Kwakshua from a number of other areas. There was fishing enough for all. Indeed, "it appeared to me," said the Givenchy's captain, "that the seiners' greatest troubles were to adjust their catches so that they would not get too many herring in the seine." In any event, they got enough to make the 33,000 ton catch between January 10th and February 22nd, when the season was closed in that area.

Just what led the herring to take the Kwakshua route nobody knows. Will they take just the same course next year? Nobody knows that either. They have a habit of changing their minds from time to time as, for instance, when they frequented Cousens Inlet in abundance a couple of years ago and then, after a season or two, could only be taken in comparatively small numbers.

#### No. 358. Sat. Sept. 23, 1939 ... Canada's Exports Prior to War

A few days ago some figures were presented to show whence Canada, prior to the war, had been getting supplies produced by other countries. Here are some figures to show something about Canada's exports prior to war.

A marked advance was recorded in the value of Canada's domestic exports during the eight months ended August, aggregating \$662,726,000 compared with \$541,462,000 in the same period of 1938, a gain of 22.4 per cent. One of the features during this period was the sharp advance in the value of exports to the United States, the total being \$306,465,000 compared with \$183,064,000 a year ago, an increase of 67.4 per cent. Exports to the United Kingdom were also higher, totalling \$214,629,000 compared with \$213,463,000.

Australia was the next heaviest purchaser with a total of \$22,723,000 compared with \$22,765,000, followed by Japan at \$18,644,000 compared with \$11,656,000, British South Africa \$11,741,000 compared with \$11,357,000, New Zealand \$9,639,000 compared with \$10,756,000, Germany \$7,547,000 compared with \$8,864,000, British West Indies \$6,900,000 compared with \$7,105,000, Belgium \$5,261,000 compared with \$4,801,000, Norway \$5,250,000 compared with \$4,518,000 and the Netherlands \$5,039,000 compared with \$6,252,000.

Other leading purchasers were as follows, with figures for the corresponding period last year in brackets: France, \$4,731,000 (\$5,852,000); Newfoundland, \$4,376,000 (\$4,908,000); British India and Burma, \$3,231,000 (\$1,948,000); Sweden, \$3,224,000 (\$3,200,000); Eire, \$2,408,000 (\$3,024,000); China, \$2,256,000 (\$1,709,000); Italy, \$1,908,000 (\$1,183,000); and Poland and Danzig, \$1,280,000 (\$570,000).

No. 359. Sun. Sept. 24, 1939 -- World Wheat Situation

War developments and subsequent adjustments to war conditions have completely engrossed the wheat trade within the past month. Unsettlement of markets dating from August 19 began with the intensified German demands for the accession of Danzig backed by concentration of troops on Polish borders. In this preliminary phase wheat prices rose and subsided with the varying war or peace prospects under conditions similar to those of the September 1938 crisis. With the German invasion of Poland on September 1, and the British and French declaration of war on September 3, North American wheat markets passed through a period of daily maximum allowable gains. At the same time the Liverpool market was closed. A third phase in the rapidly moving situation has been discernible since September 7, when trading once more became active in Winnipeg and Chicago, and prices have groped toward establishment of war-time levels. In the net result, the Winnipeg October future closing at 74 $\frac{1}{4}$  cents on September 20 registered a gain of 21 $\frac{1}{2}$  cents over the close on August 19. The Chicago September future was similarly 17  $\frac{7}{8}$  cents higher.

The outbreak of hostilities has occasioned numerous governmental changes in wheat policy designed to meet the war conditions. Outstanding among these was the action of the British Government on September 4 in requisitioning all grain stocks in the United Kingdom and in closing the Liverpool and London future markets. Control of the nationalized wheat stocks and of imports is vested in the Food Defence Department under which Port Area Grain Committees and a Cereals Purchasing Committee have been established. It is understood that cash trading at fixed prices is to be permitted at Liverpool and London. Imports are in the hands of the Cereals Purchasing Committee. Millers have been licensed and are for the present required to produce straight-run flour of 70 per cent extraction for sale at fixed prices. Apart from the settlement of futures contracts and the turning over of stocks at fixed prices, which appear to have been done quite smoothly, conduct of the wheat and flour trade on a nationalized basis has barely had time to get under way.

The Canadian Government announced on September 8 that the Winnipeg futures market would continue to operate for the present. Similarly the United States and Argentine wheat markets have remained open. The United States Government, however, has temporarily withdrawn the export subsidy on wheat which had just been recommenced on August 21. The Argentine Government on September 6 suspended the domestic minimum price of seven pesos per quintal which had been in force for farm deliveries and domestic sales of the 1939 crop. This action also removed the peg from the Buenos Aires market. In Australia, the Commonwealth Government, which had been negotiating



early in August with the State governments for a stabilization plan for the wheat industry, announced on September 14 that it would requisition all domestic wheat stocks other than those on farms, and that a compulsory marketing pool would be organized, with returns to growers equalized.

Apart from the series of government actions affecting the wheat trade, the unsettlement of foreign exchange rates, ocean freight and war-risk insurance rates have been of major significance.

Only scant attention has been paid to anything of a statistical nature during the recent developments. Any preliminary forecasts of international wheat trade during the 1939-40 season predicated upon peace conditions must be largely disregarded.

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No. 360. Mon. Sept. 25, 1939 — Canada's Population in 1938

The population of Canada in 1938, is estimated by the Dominion Bureau of Statistics at 11,195,000, an increase of 89,000 over 1937. There was an increased population in every province of the Dominion.

Live births numbered 229,183 as against 220,235. Births increased in Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba and British Columbia, with declines in Prince Edward Island, Saskatchewan and Alberta.

There were more marriages performed during 1938 than in 1937, the number being 88,398 compared with 87,800. Increases were shown in Prince Edward Island, Quebec, Ontario, Manitoba, Saskatchewan and Alberta and declines in Nova Scotia, New Brunswick and British Columbia.

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No. 361. Tues. Sept. 26, 1939 — Canada Year Book

The publication of the 1939 edition of the Canada Year Book, published by authorization of the Hon. W. D. Euler, Minister of Trade and Commerce, is announced by the Dominion Bureau of Statistics. The Canada Year Book is the official statistical annual of the country and contains a thoroughly up-to-date account of the natural resources of the Dominion and their development, the history of the country, its institutions, its demography, the different branches of production, trade, transportation, finance, education, etc. — in brief, a comprehensive study within the limits of a single volume of the social and economic condition of the Dominion. This new edition has been thoroughly revised throughout and includes in all its chapters the latest information available up to the date of going to press.

The 1939 Canada Year Book extends to over 1,200 pages, dealing with all phases of the national life and more especially with those susceptible of statistical measurement. A statistical summary of the progress of Canada is included in the introductory matter. This gives a picture in figures of the remarkable progress which the country has made since the first census of the Dominion was taken in 1871, sixty-eight years ago.

Persons requiring the Year Book may obtain it from the King's Printer, Ottawa, as long as the supply lasts, at the price of \$1.50, which covers merely the cost of paper,

printing and binding. By a special concession, a limited number of paper-bound copies have been set aside for ministers of religion, bona fide students and school teachers, who may obtain copies at the nominal price of 50 cents each.

No. 362. Wed. Sept. 27, 1939 -- Living Costs in Canada

The general level of living costs in Canada at the beginning of August, before war broke out, was less than nine per cent above the depression low of 1933. It was 17 per cent lower than the 1926 average which is representative of the period of stable prices from 1922 to 1930 following post-war readjustments. In 1920 at the peak of post-war inflation, living costs reached a level approximately 50 per cent above August 1939 levels after doubling in the preceding seven years. The greatest rise at that time came not during the war years, but in 1919 and the first half of 1920. Different budget groups contributed to those fluctuations by widely varying amounts, with foods and clothing being mainly responsible for major changes which have occurred in living cost levels.

The August 1939 index for retail food prices was 74.9 which compared with a 1933 depression low of 60.4, a post-war peak of 149.7 in 1920, and a 1913 average of 66.2. Food price averages moved down more than seven per cent during the year ended August 1939. Although the retail food price index for that month was materially above the 1913 average, a great many food staples were cheaper in 1913. This was true of lard, eggs, butter, flour, prunes, and coffee. However, most meats were higher than at that time, and so also were milk, cheese, bread, rolled oats, rice, sugar and potatoes.

No. 363. Thurs. Sept. 28, 1939 -- Canadian Commodities on the British Market

The external trade of the United Kingdom for the first six months of 1939 aggregated £712,306,402 in comparison with £735,699,233 in the first half of 1938, according to Board of Trade figures. Imports totalled £447,886,336 as against £469,657,664, domestic exports £236,318,724 compared with £233,193,516 and re-exports £28,101,342 compared with £32,848,053. These figures are exclusive of bullion and specie.

Advance was shown in the value of the trade for June, the total being £126,377,782 compared with £125,122,442 in May and £118,420,917 in June, 1938. Imports were valued at £82,174,759 compared with £78,541,325 in May and £76,540,222 in June last year, domestic exports £39,895,256 compared with £42,273,350 in May and £36,893,525 a year ago, and re-exports £4,307,767 compared with £5,012,363 the month before and £4,987,170 a year ago.

Canada led world countries as a contributor of wheat to the United Kingdom market during the first six months of 1939, sending a total of 16,638,618 cwt., the United States being second with 10,896,526 cwt., Argentina third with 9,297,695 and Australia fourth with 7,247,534. Canada was also first in June with a total of 4,133,432 cwt. and Argentina next with 2,369,165.

Canada was also first with barley, contributing a total of 1,820,558 cwt. in the first half of 1939. Iraq was second with 1,671,748 cwt. and the United States next with 1,083,077. Canada also held first place in June with a total of 561,926 cwt., Iraq being second with 321,999 cwt.



The United Kingdom imported 877,853 cwt. of oats during the first six months of 1939, of which Canada contributed 877,540. Canada was the only supplier in June when the imports totalled 170,713 cwt.

Canada sent 579,670 cwt. of bacon to the United Kingdom market during the first six months of 1939, placing her second to Denmark, which country held first place with 1,684,606 cwt. Poland, the Netherlands, Eire, Lithuania and Sweden also accounted for considerable quantities. Canada was also second in June with 83,187 cwt., Denmark being first with 287,444 cwt.

Canada maintained second place with hams, sending 112,791 cwt. during the first half of 1939, the United States holding first place with 241,683 cwt. Canada also held second place in June with 18,700 cwt. and the United States first with 52,041.

Although Canada's share in the British butter market during the first six months of 1939 was comparatively small, the picture has improved. So far this year Canada has sent a total of 71,314 cwt., whereas in the corresponding period last year only 889 cwt. had reached that market. New Zealand held first place with 1,382,629 cwt., Australia second with 1,037,713, Denmark third with 1,028,838 and the Netherlands fourth with 472,605.

Canada was fourth with cheese, accounting for 85,047 cwt., New Zealand being first with 942,655 cwt., Australia second with 185,416 and the Netherlands third with 89,166 cwt. Canada was second in June with 37,730 cwt. and New Zealand first with 141,856.

Canada followed Japan and the United States with canned salmon in the United Kingdom market during the first six months of 1939. Japan sent 226,838 cwt., the United States 192,867 and Canada 89,538. Canada was second in June with 11,246 cwt., the United States first with 24,623 and Japan third with 3,616 cwt.

Canadian canned lobsters are apparently popular in the British Market. The Canadian contribution during the first six months of 1939 totalled 4,320 cwt. out of a total of 4,592.

Canada's share in the British tobacco trade is expanding. During the first six months of 1939 Canada shipped 17,963,752 pounds of unstripped unmanufactured tobacco to that market compared with 13,475,348 in the first half of 1938 and 6,551,426 two years ago. The United States was first so far this year with 57,794,890 pounds.

Canada was fourth with stripped unmanufactured tobacco with a total of 477,612 pounds, British India being first with 8,601,168, the United States second at 6,211,120 and Nyasaland third at 522,275.

Canada was second in the United Kingdom market with asbestos, shipping 4,248 tons during the first half of 1939. Southern Rhodesia was first with 10,831 tons and the Union of South Africa third at 3,619. Canada was first in June with 1,909 tons and Southern Rhodesia second at 1,449.

Canada was first with wood and timber, the value for the first half of 1939 being £3,759,115 followed by Sweden with £2,104,320, Finland with £2,041,934, the United States £2,015,998, Poland £1,329,548, Soviet Union fourth at £945,564, France fifth at £541,019 and British India sixth at £400,979.

Canada was sixth with paper-making materials, accounting for a total of £133,965, Finland being first at £2,652,596, Sweden next at £2,297,783 followed by Norway, Algeria and Tunis.

Canada was fourth with iron and steel and manufactures thereof with a value of 75,229 tons, Belgium being first at 180,081, France second at 113,769 and British India third at 77,862.

Canada was first with aluminium and alloys in ingots, blocks, slabs, etc., the amount being 362,743 cwt. Switzerland came next at 141,840. Canada was also first in June, the amount in that month being 107,435 cwt.

Canada held first place with electrolytic copper, the amount in the first half of 1939 being 53,466 tons. The United States was the next heaviest contributor at 9,604 tons, followed by Chile at 9,331.

Canada supplied 51,408 tons of lead imported into the United Kingdom during the first six months of 1939, approximately half the amount contributed by Australia, which country took first place. Burma was third with 24,902 tons.

Canada was first with unwrought nickel in ingots, cathodes, cubes, etc. accounting for a total of 78,575 cwt., and Norway second with 24,542. Canada was also first in June with 9,042 cwt.

Canada was also first with zinc, sending 50,495 tons to that market during the first half of 1939. Belgium was second with 25,059 tons. Canada maintained first place in June at 8,360 tons.

Canada was well in advance of any other country in the United Kingdom market during the first six months of 1939 with non-ferrous metals and manufactures thereof, when the value was £6,924,647. Northern Rhodesia was next at £2,044,766, the United States £1,897,875, Chile £1,823,830, Australia £1,651,069 and Belgium £865,701.

Canada was third with machinery, the value being £777,201. The United States was first at £6,788,441 and Germany second at £2,623,179.

Canada was second in manufactures of wood and timber, the value being £426,828, Finland first at £787,078, Latvia third at £285,974 and Sweden fourth at £215,712.

Canada was seventh with apparel, amounting to £228,712, and was preceded by Germany at £1,030,801, the United States £635,329, France £534,802, Italy £415,269, Japan £370,233 and Czechoslovakia £239,772.

Canada was first in the United Kingdom market with footwear, the value being £419,215. Czechoslovakia came next at £322,982, Switzerland £277,492, Hong Kong £223,922 and the United States £207,049.

Canada was first with box and willow calf leather with 3,629 cwt., and Germany second with 2,739. Canada also held first place in June.

Canada again held first place with patent leather, contributing 5,465 cwt. In the corresponding six months last year Canada shipped 3,826 cwt.

Canada was first with newsprint paper, in rolls, accounting for a total of 1,663,323 cwt., Newfoundland being second with 961,549, Finland next with 808,600, Sweden 263,629 and Norway 142,268.

Canada was third in manufactures of rubber, the value being £92,563. The United States came first at £195,082 and Germany second at £105,214.



No. 364. Fri. Sept. 29, 1939 -- The Vast British Empire

The war in Europe has been in progress for one month and important things have happened. Poland has been destroyed, Russia has entered the devastated land and shares with Germany the spoliation of that country. Russia has made moves towards the Baltic and Germany is now endeavouring to repair the situation on the west front where France has entered the German territory almost all along the frontier from Switzerland to Luxemburg. British troops are in France and the British navy is carrying out successfully a campaign against underseas raiders. In the air it is known that many Canadian lads are playing a heroic part, and because of this fact that arm of the service up to now has captured the imagination of the Canadian folk.

During peace time we have not thought very much about the breadth and strength of the British Empire which is united with the French Empire in the defence of liberty, but now that we are at war it is being brought home to us more and more that this British Empire is embattled more strongly than any force the modern world has ever known.

The area of the British Empire is approximately 13,318,000 square miles, with a population of 493,000,000. The area of the whole world is 51,166,000 square miles and the population 2,025,000,000. Great Britain, therefore, owns more than one-quarter of the surface of the globe and considerably more than one-quarter of the population of all nations. The remarkable thing about the Empire is that it consists of a Commonwealth of free peoples who govern themselves, Canada being a notable example of the success of the British parliamentary system. The area of British territory by continents is as follows: Europe 120,791 square miles, Asia, 1,988,429, Africa 3,833,275, North and Central America and West Indies 3,991,262, South America 95,098, Oceania 3,288,928.

Their populations are: Europe 49,369,000, Asia 364,566,000, Africa 56,448,000, North and Central America and West Indies 12,760,000, South America 314,000, Oceania 9,013,000.

Let us now take the populations of the leading countries by continents for the purposes of comparison.

Europe: Russia 128,800,000, Germany 64,776,000, United Kingdom exclusive of Eire 46,342,000, France 41,950,000, Italy 41,477,000, Poland 32,176,000, Spain 23,800,000, Roumania 18,300,000, Turkey 1,100,000.

Asia: China 458,780,000, British India 355,800,000, Japan 65,500,000, Netherlands East Indies 61,900,000, Russia in Asia 34,400,000, Manchuria 29,575,000, French Indo-China 21,600,000, Korea 21,450,000, Turkey in Asia 13,600,000.

Africa: Nigeria (British) 19,200,000, Egypt 14,920,000, French West Africa 14,675,000, Belgian Congo 10,000,000, Union of South Africa 8,192,000, Algeria (French) 6,650,000, Anglo-Egyptian Sudan 5,508,000, Abyssinia 5,500,000, French Morocco 5,450,000, Tanganyika (British) 5,064,000, Uganda (British) 3,554,000, French Equatorial Africa 3,200,000, Kenya (British) 3,041,000, Gold Coast (British) 2,950,000, Rhodesia 2,532,000, Liberia 2,500,000, Tunis (French) 2,450,000, Sierra Leone 1,790,000.

North America: United States 124,450,000, Mexico 16,800,000, Canada 10,460,000 (1931 Census), Cuba 3,970,000, Jamaica (British) 1,051,000, Trinidad and Tobago (British) 415,000, Newfoundland and Labrador 282,000.

South America: Brazil 42,721,000, Argentina 11,659,000, Colombia 8,400,000, Peru 6,300,000, Chile 4,350,000, Venezuela 3,226,000, British Guiana 314,000.

Oceania: Australia 6,526,000, New Zealand 1,538,000, New Guinea (British) 540,000, Hawaii (United States) 382,000, Fiji (British) 186,000.

These figures alone provide some demonstration of the strength of the British Empire. The super-strength of the Empire, however, is in her world-wide commerce and material wealth - and the spirit of the people.

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No. 365. Sat. Sept. 30, 1939 - Curtain for Another Year

Today brings to a close "A Fact a Day" for another year. These Facts have now been published for five years, so that the next issue will take us into the sixth year.

They began with a request from the Canadian Radio Commission for "A Fact a Day" to be broadcast immediately after the evening's news report from the Canadian Press. The series in that form lasted for three years - the limit of time the Radio people give for a special programme.

It was intended to stop issuing these Facts, therefore, two years ago, but the demand was so great from teachers, independent radio stations, libraries and people generally that it was decided to continue them in this monthly form.

We have received somewhere around thirty thousand letters in connection with these broadcasts, and most of them are from schoolteachers. Some school boards have ordered them in bulk for their teachers.

It has been infinite pleasure to prepare these little stories and to be told that they are helpful in teaching young people something about their own magnificent country, its workings and its progress. To an old newspaper man, such as the writer, it brings especial joy.

And now a last word. When we began these Facts we received more suggestions for information than we do now, particularly from our readers in the United States. It is a godsend at times to get an idea from someone who wants something. If we had only one suggestion from every reader, we could carry on with a variety of little stories that would have no sign of repetition even if we eclipsed Methuselah in age. The possibilities in the Dominion Bureau of Statistics, related as it is to practically every activity in Canada, are exceptionally great.

- The Editor.

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Canada, Statistics, 1939

11-D-02

DEPARTMENT OF  
TRADE AND COMMERCE



**A FACT A DAY ABOUT CANADA**

FROM THE

**DOMINION BUREAU OF STATISTICS**

**OCTOBER 1939**

**SIXTH SERIES**



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James Muir,  
Editor.





from the

Dominion Bureau of Statistics

No. 1. Sun. Oct. 1, 1939 — The Month of October.

The month of October derives its name from the Latin word for "right". In early Roman times it was the eighth month, and only with the revision of the calendar by Julius Caesar did it take its place as the tenth month. By the way, the new calendar is generally referred to as the Julian Calendar.

It is a very beautiful month in Canada. It is the month of the Hunters' Moon, so-called by the Indians of North America, just as we talk of the Harvest Moon in September. The colour of the leaves of the trees turn, and the countryside and the woods present one of the most glorious scenes in all the world. This year they seem to be turning earlier than usual and when the setting sun plays its rays upon the tall trees, beauty, rare beauty, is unfolded to the fortunate Canadian.

The hop blossom is the special flower of October. The birthstone is the opal, although some people prefer the tourmaline as the precious stone of the month.

The famous birthdays of October include those of Cervantes, Coleridge, John Keats, William Penn, Theodore Roosevelt, Virgil, Christopher Wren, Saint Frances of Assisi, Alfred the Great, Sir Isaac Brock and Jean Francois Millet.

Great events in October which influenced the progress of the world were the Battle of Hastings in 1066, the discovery of America by Columbus in 1492, the first joint parliament of England and Scotland in 1707, the execution of Marie Antoinette in 1793, the Battle of Trafalgar in 1805, the heroic Charge of the Light Brigade in 1854, the transfer of Alaska to the United States by Russia in 1867. It was in 1922 that Benito Mussolini was made Premier of Italy.

The war has now been in progress for one month and we shall try, as time goes on, to provide as much information as possible concerning those things that appertain to the war. It is becoming trite to say that this war is different, in that it is more of a mechanized war and also that it involves civilians more than any previous conflict has done. So the activities in which we are interested are much more numerous.

---

No. 2. Mon. Oct. 2, 1939 — Germany's Second Four-Year Plan.

At this juncture it will be useful to know something about the aims and hopes of Germany's internal economy.

The Second Four-Year Plan, which commenced early in 1937, aims at rendering Germany, as far as possible, independent of foreign sources of supply, and involves the maximum exploitation of all internal sources of raw materials, and the elimination of waste in all its forms. Every effort is made to produce substitutes for products which must necessarily be imported, and both consumption and production are directed into channels which are determined by the State.

This policy has exercised an important effect on the foreign trade of Germany, the volume of which has decreased steadily since the inception of the Plan.

With the incorporation of the former states of Czechoslovakia and Austria into the Reich, it is claimed that Germany has become the greatest industrial country in the world. Despite the great progress already made in the execution of the Four-Year Plan, the dearth of raw materials remains unabated, and while 80 per cent of Germany's exports are composed of manufactured goods, 70 per cent of her imports consist of raw materials and foodstuffs.

Due to the facility with which all manner of products are disposed of on internal markets, it has become necessary for the German authorities to encourage exports artificially. On the other hand, the lack of holdings of foreign exchange has caused a stringent state control to be placed on all imports. In addition to the licensing of imports, measures to this end include supervision of the quality of the goods, the prices paid therefor, and the terms of shipment. Efforts are made to issue import permits only to well-established firms, and the requirements of the State are given priority to those of private enterprise and commerce.

The shortage of her earnings of foreign exchange, together with the strict control exercised over her imports, have during recent years acted as a deterrent to intending exporters to Germany. The extensive demand for foodstuffs and raw materials, however, ensures that such products will find a ready market in the Reich.

Under the Union-German Payments Agreement, which was renewed for the fifth time during 1938, the German Government has agreed to permit entry into the Reich of certain products in specified quantities and to reserve foreign exchange which accrues from the export of German goods to the Union for payment of these products.

Total imports into and exports from Germany for 1938 were valued at 5,449 and 5,257 million Reichmarks, respectively, leaving Germany with an unfavourable trade balance of 192 million Reichmarks. The Netherlands and Great Britain were Germany's best customers, while a large volume of her trade was effected with the states of eastern and south-eastern Europe.

---

No. 3. Tues. Oct. 3, 1939 -- Some Reliable Information about Russia -- 1.

Russia is much in our thoughts these days. We are wondering how far she will go in her alliance with Germany.

Here is some important information regarding the Soviet Census of 1939, which is taken from an article by the Moscow correspondent of the London Economist, Sept. 16:

So far as the outside world was concerned, the principal characteristics of the census of the Soviet Union which was taken in 1938 were that the results were never published; and that, shortly after its completion, many of the members of the census committee were shot or exiled on charges of spying, and "sabotaging the census." At least a partial reason for this was that the number of answers to questions of literacy, and religious beliefs, which, from the standpoint of the Bolsheviks, were unfavourable, was large. Be that as it may, the entire census was re-taken in 1939, and preliminary results were published in August.

The population of the entire Soviet Union is 170,467,186, representing an increase of about 23,000,000 since the last census in 1926.

The most striking item in the figures, and one which is of tremendous importance in the Soviet Union of today, is the 30,000,000 new city dwellers. These



ex-peasants left their villages to go to construction camps and industrial centres, to build and run the new mills, mines and industries that the Union has acquired since the beginning of the first Five-Year Plan in 1928. They generally came in response to recruiting campaigns for industrial labour power. Others came to escape from the bad conditions prevalent in many villages in all parts of the country during and immediately after the collectivisation of agriculture. Others came because they wanted to learn trades and become workers, or even professional men. A few came as functionaries and leaders.

In any case, the results on the national economy were far-reaching. Thirty million men and women who were used to making most of the things they consumed suddenly attacked the market, with their newly acquired money in their pockets, and demanded manufactured foods, factory-made furniture, electric lights, radios, and, most difficult of all, manufactured clothes and shoes.

Soviet light industry, given second or third place in the capital allocations (after heavy industry and transport) could not, and cannot, yet begin to meet that demand. Russia is still today a country of hungry buyers with their pockets full of money, ready to take almost anything even at high prices. Far from disappearing, this tendency for the peasants to flock to the villages is becoming more marked according to a definite plan. At the eighteenth party congress in March of this year Stalin made an appeal for two million peasants every year to join the ranks of industrial workers. These are now being recruited in villages all over the Union.

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No. 4. Wed. Oct. 4, 1939 -- Some Reliable Information about Russia -- 2.

Figures of the increase of population during the last twelve years in the U.S.S.R. by districts and by republics (city dwellers and country dwellers being shown separately) illustrate the very rapid increase in the number and proportion of city dwellers -- who are, of course, mainly industrial workers -- in several of the outlying districts and republics in Central Asia. The power projects, State cotton farms, and textile cities in Turkmenia, and coal, nickel, zinc and other mining and industrial enterprises in Kazakhstan are taking their workers from the nomadic, primitive native populations of these remote areas.

The Soviet Union has two cities with a population of over a million -- Moscow, whose 4,137,018 inhabitants more than double the 1926 figure, and Leningrad, with 3,191,314, against 1,690,065 in 1926. There is then a large gap before the next group of cities is reached. There are nine with populations between 500,000 and 900,000.

The figures of birth-rates and the relation between births and deaths are extremely interesting. Births exceeded deaths in 1937 in England by 21 per cent; in Germany by 62 per cent; in the United States of America by 30 per cent; in Italy by 38 per cent; and in the U.S.S.R. by 115.7 per cent. In France deaths have been exceeding births for several years. The following table gives the absolute and relative birth-rate for several cities in the U.S.S.R. and in other countries.

<u>CITIES</u>	<u>Year</u>	<u>Births (absolute)</u> <u>(thousands)</u>	<u>Average births</u> <u>per 1,000</u>
Moscow	1938	117.2	28.5
Leningrad	1938	83.8	27.4
Kiev	1938	22.5	27.4
Kharkov	1938	22.4	27.7

<u>CITIES</u>	<u>Year</u>	<u>Births (absolute)</u> <u>(thousands) - Conc.</u>	<u>Average births</u> <u>per 1,000 - Conc.</u>
Baku	1938	26.9	33.9
New York	1936	99.4	13.5
London	1936	56.3	13.6
Paris	1936	32.5	11.5
Berlin	1936	59.5	14.1
Rome	1936	34.0	21.7

No. 5. Thurs. Oct. 5, 1939 -- Some Reliable Information about Russia - 3.

The Soviet Press, in commenting on this high birth-rate, claims it to be the result of the great attention and assistance which is given to the Soviet family by the Government. It is true that steps have been made in this direction recently; large sums have been spent on construction of maternity wards, nurseries and other children's institutions. Bounties have also been granted to mothers with seven or more living children, and the laws requiring a father to assist in the support of his children are being strictly enforced. Still, in the opinion of the writer, the most important factors contributing to the high birth-rate are the new laws and their strict enforcement, crowded living quarters, particularly in the cities, and the comparative illiteracy in matters of hygiene of large sections of the population.

An interesting note on family life is that there were 35.8 per cent less divorces in 1938 than in 1936, while there were more marriages. This is partly due to the rise in the price of divorces since 1937. They used to cost three roubles (the price of a packet of good cigarettes), now the price is 50 roubles the first time, 100 the second, 200 the third and so on.

The development of the population of the city of Moscow is interesting. Before the war there were 1,481,000 inhabitants, but by 1917, due to the stimulation of the war, the figure had risen to 2,165,000. During the three years of the civil war, however, there was nothing to eat in the big cities, and the population of the capital fell to 952,000 (1920). By 1926, with the re-establishment of peace and order, it had risen to just over 2,000,000, and in the subsequent twelve years, as a result of industrialization, centralization and natural growth, it went up to well over 4,000,000. Despite the fact that during the second Five-Year Plan the State spent 16.3 billion roubles on living quarters, the situation is not improving very rapidly. The phenomenal growth in the number of city dwellers has a very dark side. Living quarters in Moscow, for instance, are unbelievably crowded. People marry, divorce, even commit murder for a room or a part of a room.

No. 6. Fri. Oct. 6, 1939 -- Fort Lennox Memorial.

In the presence of a delegation from France, which included descendants of General Montcalm, three tablets were unveiled at Fort Lennox, Ile-aux-Noix, P.Q., last month. These tablets have been erected by the Dominion Government, acting on the recommendation of the Historic Sites and Monuments Board of Canada. Two of them are affixed to the north entrance of Fort Lennox; one gives the history of the fort and the other is in memory of the services of the officers, seamen and soldiers of the Royal Navy, Provincial Marine and Royal Marines who fought in the defence of Canada



on Lake Champlain in 1776-7 and 1812-14. The third tablet is affixed to the south entrance to the fort, and commemorates the events connected with the naval battle fought on Lake Champlain on June 3, 1813.

About a forty-mile motor drive from Montreal, Fort Lennox stands in quiet dignity on Ile-aux-Noix, an island in the Richelieu River which figured as a strategic defence point during the struggle between the English and French. Ile-aux-Noix, said to have been visited by Champlain in 1609, forms a part of the seigneurie granted to Sieur Chavoye de Noyan in 1733. From a lease issued at Montreal on April 7, 1753, it appears that Pierre Jourdanet was the first occupant, and the rent he paid to the Seigneur was one bag of nuts from the island. Following its early fortification by the French, the island figured in a number of military engagements, and its surrender was a prelude to the fall of Montreal and the end of the French regime. In 1782 the defences of the island were strengthened by the British, and in 1812 further construction was undertaken.

Fort Lennox to-day presents an aspect of proud, magnificent solidity; the buildings and grounds are so well kept that one finds it difficult to realize that it was in 1870 that the last regiment marched out of the fort. At the entrance is a massive archway of great blocks of hewn stone. The gateway opens upon a spacious square on three sides of which are arranged the various fort buildings, officers' quarters, guardhouse, canteen, barracks and commissariat buildings, all of which are constructed of stone on the massive lines adopted by the British authorities. The square is surrounded by a steep rampart of earth which rises abruptly from the waters of the moat which surrounds the fortress.

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No. 7. Sat. Oct. 7, 1939 --- Medical Progress Among Eskimos.

A survey of health conditions of the Eskimos made during this year's Eastern Arctic Patrol indicates the remarkable progress which is being made through the work of the northern medical services of the Government.

During the past year no major epidemics had occurred in the inland areas and the sickness and mortality rates are definitely on the decline. The commonest forms of illness were affections of the eyes and instructions for special treatments were left at all points of call. A better understanding on the part of the Eskimo regarding the white man's reasons in treatment is in evidence everywhere and, no doubt, is augmented by the fine type of men in the service of the Royal Canadian Mounted Police, the Hudson's Bay Company and the Anglican and Roman Catholic Missions, who are all working with a common view in mind, namely, rendering necessary aid to a primitive but self-reliant people.

The hospitals and industrial homes at Chesterfield and Pangnirtung have had the usual busy season and the direct benefit of these institutions can easily be measured by their services rendered and by their beneficial effects upon all the natives contacted. These two hospitals serve a vast territory. Pangnirtung is the centre for Baffin Island, Hudson Strait, and a part of northern Quebec, while Chesterfield serves the country from Churchill to Pelly Bay, across to Igloolik and many miles inland.

The maternity death rate is very much lower than formerly and compares favourably with the existing rate among white people.

Public health and sanitation are not at all difficult to introduce in the life of the Eskimo. In this the settled points are far in advance of the less settled areas;

thus it is evident that the white residents have a direct bearing on this subject due, no doubt, to the ability and desire of the natives to imitate their white friends.

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No. 8. Sun. Oct. 8, 1939 — Price Situation at Opening of Hostilities.

Canada has commenced the war in a better position than in 1914, from the point of view of the price situation. It is true that if August, 1939, be compared with August, 1914, costs of living are at higher levels. On the basis 1926=100 the corresponding indexes are as follows:

	<u>August, 1914</u>	<u>August, 1939.</u>
Foods	68.2	74.9
Fuel	63.8	83.7
Rent	64.1	90.0
Clothing	63.9	72.6
Miscellaneous	66.2	94.1
Total	65.9	83.0

(1939 is approx. 26% higher than in 1914)

But a comparison of relative costs based on these two periods is misleading unless related to other factors. It is true prices are higher in 1939 but then salary and wage levels are also higher. One index of wage changes is that of the rates of wages for various classes of labour in Canada. The Department of Labour index was 199.4 in 1938 as compared with 100 in 1913. Of course these figures apply to rates of wages as distinct from actual earnings. The index of earnings in manufacturing industries was 117.6 in 1936 as compared with 100 in 1917. If the base had been 1913 then the index in 1936 would have been considerably higher. Hence there is clear evidence that wages and salaries in 1939 as compared with 1913 had caught up to the increased prices which prevailed in 1939 as compared with 1913.

As a matter of fact prices in 1939 were low as compared with 1926 which has been considered a more or less normal year in the post-war period. Compared with 1926 the general cost of living in August, 1939, was approximately 17% lower. Food was 25% lower, fuel 16%, rent 10%, clothing 27% and miscellaneous items 6% lower.

We commence this present war, therefore, at least with no relative disadvantage in the relationship between costs of living and wages and salaries as compared with 1914. Indeed it is probable that the position is somewhat better. But we commence it with a much better situation as regards price controls. In the last war there was no central bank in Canada to keep watch on price movements and to establish checks on inflation. Now we have the Bank of Canada. Moreover, it was not until many months or even years had passed during the last war that control boards for various commodities were established. These have been instituted from the outset in the present war. Undoubtedly all these measures will have a strong deterrent effect on price upswings and should prevent the inflationary increases of the last war.

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No. 9. Mon. Oct. 9, 1939 - Trend of Canada's Trade in September.

Although a single month of war is not of great significance as showing the trend of Canadian trade, yet it is very interesting to observe what has happened since



hostilities commenced at the beginning of September.

Canadian exports not only held their own but they increased quite definitely. The total of \$81,461,000, exclusive of gold, was a 12.8 per cent increase over September last year. To the United Kingdom at \$29,189,000 the advance was one per cent and to the United States at \$34,132,000 it was no less than 35.9 per cent.

There were very large increases in the exports to British India, 151.3 per cent, Ceylon 100 per cent, Denmark 344.6 per cent, Japan 281.9 per cent, Hawaii 298.7 per cent, Venezuela 146.2 per cent, British South Africa 88.8 per cent.

The exports to India were mainly automobiles and parts and calcium carbide, to Denmark wheat, salmon, copper and asbestos, to Japan nickel, aluminium, asbestos, copper, hemlock logs and sulphite pulp, to Hawaii almost all fertilizer, to Venezuela milk powder, newsprint and sewing-machines, to Ceylon newsprint, and to British South Africa railway rails, automobiles and parts.

The following were the outstanding decreases: Russia 97.9 per cent, Italy 62.7, Germany 87.7, Hong Kong 65.2, and Malta 55.9.

It should be remarked that many Canadian consignments to countries mentioned were made before Canada had been declared in a state of war.

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No. 10. Tues. Oct. 10, 1939 --- Exports in September.

Canada's domestic exports in September 1939, the first month of war were valued at \$81,462,619 as compared with \$72,296,271 in September last year. The figures in both cases refer to commodity trade only, excluding gold. Exports of leading items in September 1939 with figures for September 1938 in parentheses, were as follows: Wheat, \$10,654,517 (\$8,410,294); wheat flour, \$1,185,310 (\$1,230,963); fish, \$3,179,532 (\$2,981,433); furs, \$524,707 (\$518,427); meats, \$2,224,840 (\$2,424,883); cheese, \$1,221,307 (\$2,050,404); planks and boards, \$5,051,628 (\$3,014,793); wood pulp, \$2,200,372 (\$2,304,564); newsprint, \$9,872,464 (\$8,523,555); automobiles and parts, \$1,029,419 (\$1,412,446); copper, partially manufactured, \$4,563,819 (\$4,703,938); nickel, unmanufactured, \$6,866,866 (\$4,976,553).

For the nine months ended September 1939 domestic exports amounted to \$636,309,934 as compared with \$594,547,845 in the first nine months of last year. Principal items, with comparative statistics for the nine months ended September, 1938 in parentheses, were as follows: wheat, \$55,863,129 (\$52,029,010); wheat flour, \$10,082,114 (\$13,140,211); fish, \$19,739,200 (\$18,743,317); furs, \$11,671,868 (\$11,070,280); meats, \$24,127,852 (\$27,196,687); cheese, \$6,425,902 (\$7,203,418); planks and boards, \$35,018,830 (\$25,774,057); wood pulp, \$20,371,748 (\$20,399,961); newsprint, \$81,180,060 (\$73,892,415); automobiles and parts, \$20,653,903 (\$20,115,972); copper, partially manufactured, \$40,116,529 (\$37,688,658); nickel, unmanufactured, \$42,667,632 (\$38,943,370).

Exports of foreign produce in September, 1939, amounted to \$995,397 and in the nine months ended September, 1939, to \$7,731,539, compared with \$902,883 and \$8,186,692 in September, 1938, and the nine months ended September, 1938, respectively.

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No. 11. Wed. Oct. 11, 1939 --- Canada's Imports in September.

The record of Canada's imports in September is particularly interesting as showing the strength and comprehensive structure of Canadian commerce under the early strain of war. The imports from leading Empire countries in September were as follows, with the figures of a year ago in brackets: United Kingdom, \$9,252,769 (\$10,014,786); Eire, \$4,498 (\$1,098); Burma, \$13,891 (\$11,378); British East Africa, \$129,280 (\$46,333); British South Africa, \$806,013 (\$45,279); Gold Coast, \$67,356 (\$21,865); Sierra Leone, \$403 (\$535); Bermuda, \$2,889 (\$2,951); British India, \$728,271 (\$642,466); Ceylon, \$511,103 (\$317,312); Straits Settlements, \$958,216 (\$557,814); Other British East Indies, \$6,939 (\$3,935); British Guiana, \$814,133 (\$1,055,557); British Honduras, \$3,380 (\$6,147); Barbados, \$409,050 (\$98,829); Jamaica, \$418,158 (\$539,446); Trinidad and Tobago, \$307,751 (\$112,875); Hong Kong, \$57,900 (\$47,638); Newfoundland, \$237,426 (\$199,771); Australia, \$955,355 (\$656,230); Fiji, \$386,780 (\$228,699); New Zealand, \$255,850 (\$186,652); Palestine, \$1,604 (\$1,414).

Imports from other leading countries were as follows: United States, \$50,799,416 (\$34,705,180); Argentina, \$458,792 (\$293,498); Belgium, \$468,960 (\$555,174); Brazil, \$203,362 (\$56,191); China, \$236,414 (\$158,467); Colombia, \$507,737 (\$1,256,002); Costa Rica, \$44,373 (\$14,153); Cuba, \$29,513 (\$33,524); Denmark, \$7,578 (\$5,768); Egypt, \$8,220 (\$35,361); Estonia, \$2,343 (\$1,142); Finland, \$10,546 (\$5,953); France, \$652,550 (\$709,272); French Africa, \$1,795 (\$4,130); French East Indies, \$30,242 (nil); Madagascar, \$570 (\$70); Greece, \$2,775 (\$557); Guatemala, \$59,730 (\$10,250); Honduras, \$6,055 (\$16,677); Hungary, \$9,139 (\$4,413); Iraq, \$7,543 (\$4,076); Italy, \$132,298 (\$161,422).

Other leading countries were: Japan, \$504,077 (\$333,310); Latvia, \$1,094 (\$167); Liberia, \$16,307 (nil); Lithuania, \$1,810 (\$384); Mexico, \$3,179 (\$111,087); Netherlands, \$444,384 (\$446,062); Dutch East Indies, \$38,633 (\$25,883); Dutch West Indies, \$8,718 (nil); Norway, \$96,377 (\$53,242); Panama, \$12,326 (\$2,688); Paraguay, nil (\$1,957); Persia, \$3,186 (\$5,972); Peru, nil (\$302,591); Poland and Danzig, \$15,549 (\$17,500); Portugal, \$12,498 (\$30,262); Azores and Madeira, \$13,438 (\$18,475); Roumania, \$5,631 (nil); Russia, \$6,460 (\$7,250); Salvador, \$13,541 (\$2,796); Spain, \$56,239 (\$68,498); Sweden, \$200,833 (\$194,515); Switzerland, \$314,232 (\$278,233); Turkey, \$358 (\$2,889); Alaska, \$58,600 (\$9,954); Hawaii, \$26,625 (\$6,102); Philippine Islands, \$28,159 (\$40,288); Uruguay, \$32,137 (\$11,235); Venezuela, \$155,310 (\$67,046); Yugoslavia, \$5,801 (\$3,437).

No. 12. Thurs. Oct. 12, 1939 --- Columbus Day.

While Columbus Day is not celebrated in Canada as a public holiday, October 12 is regarded as one of the great dates of North American history, because it was on that day in 1492 that Christopher Columbus first laid eyes upon the outlying islands of the western hemisphere. Ten weeks earlier he had set sail to seek the Indies on what was to be the most momentous voyage in the world's history. On the early morning of the 12th when land was sighted, it was not the Indies he had reached, as he always believed, but he had found a New World.

Born in Genoa probably in 1451, carefully educated in his father's craft as a skilled weaver, it is a startling contrast to find Columbus at the age of 14 sailing the Mediterranean. Wrecked off the coast of Portugal six years later, he settled in that country with his brother Bartholomew, who established himself as a mariner and constructor of maps at Lisbon.



This was a decade after the death of Prince Henry of Portugal, who for 40 years had built up his country's maritime trade. Known as Henry the Navigator, he had devoted his immense wealth to the task, training his pilots in the art of navigation according to the best scientific principles of the time. The Portuguese became the boldest and most skilful mariners in Europe.

The two Columbus brothers became prominent amongst the adventurous navigators whom the fame of the Portuguese discoveries had attracted to Lisbon. It was shortly afterwards that the long sought passage to the Indies around Africa was at last discovered by Bartholomew Diaz in his great voyage of 1486-88. Christopher's brother Bartholomew sailed with Diaz on the memorable voyage. It is not clear when Christopher started dreaming of the westward route to the Indies, but these events strengthened his will to find a shorter way by the west. He placed his proposal before King John II, but it was rejected by the scientific experts who examined it. Leaving Lisbon to try his fortune in Spain, he struggled for eight years with ignorance and malice before he was able to win the sympathies of the King and Queen of Spain. But it was the far sighted Queen Isabella alone who took the initiative in enabling him to execute his mission. With three small vessels (The Pinta, the Nina and the Santa Maria) manned by 120 men, he set sail on August 3, 1492 from the Port of Palos, 18 years after he had first conceived the idea of the westward journey to the Indies -- 18 years spent in almost hopeless solicitation, amidst poverty, neglect and ridicule, the prime of his life wasted in the struggle.

It was the island of Guanahani that he sighted on October 12, at a time of crisis with a mutinous crew who had lost their courage after the first three weeks on the limitless Atlantic. Taking possession of the island in the name of Ferdinand and Isabella of Spain, he renamed it San Salvador in memory of his preservation.

There followed in swift succession the discoveries of Cuba and Haiti, thrilling adventures among the islands, miraculous escapes from the perils of the deep, and the long voyage back to Spain to tell of the strange events. Arriving at Palos on March 15, 1493, he received a magnificent reception, and again at Barcelona, where a chair was placed for him next to the throne, and he was created a grandee.

Under entirely different circumstances, he made two long exploration trips back to the "West Indies" as he innocently named the new world, making other great discoveries. On the last voyage in 1504 he even explored the south shore of the Gulf of Mexico. Returning to Spain broken in health, he died in 1506. His restless spirit seems to have been perpetuated in his earthly remains: for two centuries his bones were moved all over Spain to memorial shrines, then across the Atlantic twice -- to the Cathedral in Havana in 1796 and 100 years later back to Spain, where they now remain in Seville.

Columbus Day is a state holiday in most parts of the Union, and we Canadians are glad to share with them the memory of an intrepid explorer. Italy produced the man, Portugal produced the navigator, and Spain produced the means -- a prophetic indication that the New World was to be built by many hands from many lands.

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No. 13. Fri. Oct. 13, 1939 -- Character of September Imports.

War preparations appears to bulk largely in the character of the September imports and is particularly prominent in iron and its products as well as in fuel. Engines and boilers increased from \$594,000 to \$939,000, pigs and ingots from \$42,000 to \$162,000, plates and sheets from \$1,192,000 to \$2,059,000. Indeed, all along the line there is an increase; it is significant that farm implements increased from

\$1,443,000 to \$1,806,000 while automobiles rose from \$327,000 to \$1,436,000 and automobile parts from \$1,520,000 to \$2,280,000.

Copper, lead, manganese oxide and precious metals all advanced, particularly the latter from \$194,000 to \$401,000. The increase in coal was very large, from \$3,358,000 to \$7,721,000. Imports of coal from the United Kingdom decreased by about 50 per cent, but imports from the United States increased by about three times. Crude petroleum decreased by nearly a million and a half dollars.

In another direction there were some substantial gains in our imports. Sugar has been much in the limelight; the raw sugar imports increased from \$1,750,000 to \$2,007,000. Raw rubber imports more than doubled. In the beverage class imports of tea and coffee both doubled, tea at \$1,595,000 and coffee at \$509,000. Alcoholic beverages apparently were more in demand for they rose from \$649,000 to \$981,000. Fruits, gums, grains, nuts, seeds, cheese, leather and meats all showed increases. There were no butter imports, which bears out the statement made recently by the Bureau that the butter situation was satisfactory.

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No. 14. Sat. Oct. 14, 1939 -- A Bit of Fur Trade History.

Canadian fur trade history will write another new chapter in December and January when 3,000 finished seal skins -- enough for approximately 500 fur coats -- will be offered for sale by the Department of Fisheries at fur auctions in Montreal. This will be the first occasion on which seal skin auctions similar to those in London, England, and St. Louis, U.S.A., world centres of the fur trade, have been held in the Dominion.

The 3,000 skins which will be auctioned at Montreal are part of Canada's share of fur seal skins taken on the Pribilof Islands, Alaska, under the Pelagic Sealing Treaty. They have been dressed and dyed by a leading processing company in Great Britain and are comparable in quality to skins offered at London for the British and European trade. Both black and brown dyed skins will be included, all stamped with the Maple Leaf insignia.

Under the sealing treaty, the capture of seals on the Pribilof rookeries is entirely in the hands of the United States Government but Canada is entitled to fifteen per cent of the annual take. Of course, in the interests of conservation only a certain proportion of the total herd are selected for killing each year. The skins offered for sale at Montreal are from the take of previous years, but this year up to July 27th, 1939, when the season ended, 60,473 fur seal skins were obtained in Pribilof areas. Canada's share of these 1939 skins has already been delivered to the Dominion authorities but the pelts are still in the "raw" state and will be finished later on. Increases in the herds during 1939 were sufficient to allow 2,109 more skins to be taken than in 1938 and the number of skins obtained this year was the largest secured in 50 years, according to official United States figures. In other words, the seal population is at present at the highest point since 1889.

Until a short time ago the practice of Canadian authorities was to market their share of the Pribilof skins through St. Louis auctions, but for several years past the pelts have been shipped to London for processing and sale. Now, however, it is believed desirable to put a share of the skins on the Canadian market direct, and plans for the holding of the Montreal auction have therefore been made.

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No. 15. Sun. Oct. 15, 1939 -- Wood as Fuel.

Canadians use a great quantity of wood annually as fuel for heating our homes in the winter months. Our bill for wood as fuel is reckoned at about thirty million dollars annually. It is therefore very timely to receive from the Department of Mines and Resources a few pointers on the most efficient methods of burning wood.

Tests made by the Department show that if a wood-fired stove is of inferior construction or is in poor condition it may not deliver more than half the heat it should. In other words as much as one dollar out of every two spent on fuel may be needlessly wasted. A leaky stove which admits air through a dozen places besides the regular draught openings is a bad offender and in a very short time may waste more dollars up the chimney than would be required to correct the fault. The amount of air admitted to a stove or furnace should be completely under control particularly when burning wood because this fuel requires very little air for satisfactory combustion in comparison with the requirement for other fuels.

Hard maple, yellow birch, beech, oak and hickory are among the best Canadian woods for fuel, a cord and one-quarter of any one of them being approximately equal in heating value to one ton of anthracite coal. Regardless of what wood is used, it should be as dry as possible for not only does wet wood give out less heat than dry wood but it is also apt to cause fouling of the pipes. For this reason firewood seasoned for less than one year should not be used, and to achieve the best results wood should be cut into suitable lengths for the stove or furnace as soon as possible so as to permit the most thorough seasoning.

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No. 16. Mon. Oct. 16, 1939 - Paying Indian Treaty Money.

Payment of Indian Treaty money is an event to which Indians, particularly those at far outlying points, look forward each year. This annual distribution of what is termed "Treaty Annuities" is made between the months of April and August under the provision of treaties made between the Crown and the Indians of a portion of Ontario, the Prairie Provinces and the Northwest Territories. Some \$250,000 is distributed annually. In addition extra treaty rations are allowed and once every three years the Chiefs and Headmen receive special issues of clothing in the way of uniforms.

Treaty payments may be made by the Indian Agent, who in many cases is also the doctor, or payments may be made by the Royal Canadian Mounted Police. In some instances travel to the treaty grounds is still by boat, but in the more remote districts air transportation is used wherever practicable and has resulted in a great saving of time and hardship to the treaty-paying party. On account of the difficulty of finding suitable landing places for land aircraft, seaplanes are used which permit landings being made on lakes and rivers in the vicinity of the Indian settlements. Seven such flights were made during the past summer.

In addition to distributing treaty money, the paying officer discusses all matters of interest to the Indians and inspects their houses and tents. The sick are brought to the doctor who gives them the necessary treatment and sends out to hospital any requiring extended care. The medical examination includes eye tests and attention to teeth. Great importance is attached to immunizing the Indians against smallpox by vaccination.

When all business matters are attended to the Indians celebrate the occasion with a feast and dancing which usually continues throughout the night.

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No. 17. Tues. Oct. 17, 1939 -- Range Cattle in Winter.

Here is some information about cattle in winter that will be of considerable value to the farm folk.

Investigations have shown that the younger an animal is, the less weight it can lose and still maintain normal growth and development. If the practical question of dollars and cents were altogether disregarded, it would, without a doubt, be the best policy to winter all ages of cattle so that gains instead of losses would be recorded. Such a practice would enable an animal to attain maximum growth and development at maturity. However, under range conditions, it is not always possible to do this and at the same time operate economically on account of the high cost of any winter gain as compared to the relatively cheap gains that can be made on grass during the summer months.

In wintering calves it is usually economical to winter them so they just maintain their weight, neither gaining nor losing to any extent. If calves make appreciable gains during the winter, the cost of these gains is usually out of proportion to the benefits derived unless the winter is extremely mild and open. Conversely, if calves lose too much weight the danger of loss is increased, and proper development may be hindered. Experiments have compared calves fed to gain 100 pounds over the winter and calves fed to maintain their initial weight only. Invariably, the latter class will make larger gains during the summer following, but the combined winter and summer gains of this group is usually slightly less than that of the group that has been wintered to gain 100 pounds.

A calf that is weaned in good condition in the fall does not stop growing in spite of the fact that it just maintains its weight over the winter period. Its frame continues to grow at the expense of the flesh it carried in the fall, and although it may be thin in the spring of the year, it is in condition to make maximum use of grass during the grazing season.

It has been demonstrated that yearlings in good flesh in the fall can afford to lose 50 to 75 pounds during the winter without impairing their growth and development to any extent. Yearling steers are more difficult to winter than heifers of the same age, and when both are wintered under the same conditions, the heifers will usually come through with less shrinkage.

Cows that are fat in the fall can afford to lose much more weight than cows that go into the winter in poor condition. During recent severe winters, cows in the best of condition in the fall, and weighing up to 1300 pounds, have lost as much as 350 pounds, weighing only 950 pounds in the spring. They were wintered with no supplemental feed, and although thin, they were strong and able to make quick gains on grass. During the same years, cows that were very thin in the fall wintered with very little loss in weight. They required a large amount of supplemental feeding and even then were weak and unthrifty when green grass came. They simply did not have any weight to lose.

On first sight it might appear that the loss of 350 pounds weight during the winter would have an injurious effect on the constitution of a cow. The records have shown that such losses have no apparent effect on the subsequent weight and condition of either the cow or the calf she raises. With sufficient pasture during the summer, the same cows have been able to regain all winter losses and weight 1300 pounds again the following fall. In addition, they are able to raise good calves while doing so. These experiments serve to show the advantage of "wintering cattle in the summer-time" by allowing them sufficient grass to enable them to attain first class condition in the fall.



Canada is the only country in the world to establish definite grades for all seeds: three grades for every kind of seed. These grades are governed by the Seeds Act, administered by the Dominion Department of Agriculture, which maintains eight seed testing laboratories throughout Canada. The methods and the same standards are used in each of the laboratories, so that in every province the grade of the seed is of the same value.

When a farmer sends a sample of seed to a laboratory, the same tests are rigidly followed and in no case is there any guesswork. The seed must pass the accredited tests for purity, germination and quality, otherwise it is rejected. First of all the sample is given a number and it is known by that number only, because the analyst does not know where it came from or who grew it. The sample is then run through an electrically operated mixer so that every portion of the sample may be as much alike as possible. Special amounts for testing are carefully weighed on delicate scales and trained workers examine the seed with magnifying glasses, picking out weed seeds or seeds of other varieties. No machine, however, can replace the human hand and eye in this work, and everything found in the sample is marked on a chart which follows the seed on its way through the other tests in the laboratory.

Many special machines and gadgets are used in seed testing. One, called a diaphanoscope, throws a strong light up through a sample of seed so that sound seeds may be detected from those which are just hulls. Another machine sends a measured current of air through a sample and carries away poor and light seed through a glass tube, leaving only sound seed to be examined. Incidentally, it is often a difficult task to pick out perfect and imperfect specimens from such small seeds as blue-grass or brown top.

Germination in seeds is most important and special equipment is used for the tests. A definite number of seeds must be used for each test. Where there is no modern equipment the seeds have to be counted by hand, but by the latest method a suction plate picks up 100 seeds and neatly spaces them on blotting or litmus paper as the case may be, ready for examination. Other seeds are tested in sand and all seeds are developed in germinators where temperature and moisture are controlled. Four lots of each sample are tested and each lot is examined on four different days until the time limit has been reached. Then the average is taken, every detail being marked on the chart.

Some seeds will not germinate until they are pre-cooled, so the laboratories are equipped with special refrigerators where seeds of this kind can be chilled before being placed in the germinators. When the seed has been tested for purity and germination it is handed over with the charts to the grader. If the first tests are up to standard the grader examines the sample for quality and appearance. If the grader is satisfied then the grade is decided upon and the farmer receives a certificate of grade. The grades are 1, 2 and 3. No. 1 and No. 2 are most common. Very little No. 3 grade is seen in Canada.

A call has gone out to every Canadian to do his best in helping the cause of his country in this war. Food, of course, is of enormous importance, and the keeping of poultry occupies a high place in our scheme of things. Here is a useful note:

At this season of the year when the pullets are being transferred from the range to winter quarters, the one important factor in reducing the cost of producing eggs is the careful selection of only vigorous and well matured birds. Without the essentials of health, vigour and good breeding, no flock can give entirely satisfactory returns. Quality is the factor that determines profits. A good bird properly managed, is and asset but all the effort expended on good feeding and care can make nothing but a liability of the poor bird.

Every bird should be examined individually and any showing physical defects or immaturity for their age should not be kept, under any consideration. Good body weight, a bright bay eye, healthy red comb and wattles, and glossy, tight, smooth feathering, are accurate indications of vigour and good condition.

Though culling should be a periodical practice throughout the year, a rigid selection should be the order at this season. An unthrifty "boarder" in the flock may be taking the space, feed and labour that would be devoted to a good profitable layer. At the same time, the weakling may be a source of danger to the remainder of the flock. Her poor condition offering little resistance to disease and parasites she may be the medium of infection leading to a disastrous outbreak of disease, with high mortality and a lowered production of eggs, or the difference between a profitable undertaking and a serious loss.

No. 20. Fri. Oct. 20, 1939 -- Tuna Fishing.

Tuna have come very much into the deep-sea angling picture on part of Canada's Atlantic Coast in the past three or four years. The latest development is the international tuna fishing tournaments held in Southwestern Nova Scotia. Teams of "big game" anglers representing the British Empire, the United States and Cuba pit their skill against one another -- and against the big, swift, powerful tuna, many of them hundreds of pounds in weight each.

Tuna are likewise taken by anglers off such places as Jordan Bay, Shelburne, Lunenburg, and Chester. The largest commercial catches are ordinarily made in the area between Pennant Point, Halifax County, and Mahone Bay, Lunenburg County. The fish taken in commercial fishing are marketed in the fresh form, most of them being shipped to the United States, although once in a while a few of them are canned. "Big game" angling on the Atlantic Coast includes fishing for swordfish, as well as tuna, a sport which is centred off Louisburg. There's plenty of thrill to that, too, for the broadbill swordfish, streamlined, sword-armed torpedo of the sea, is one of the most fearless fighting fish in any man's ocean.

Tuna, caught and landed, run about \$25,000 in value and, when marketed, rise to over \$30,000. It is not very much comparatively, but it is important as a variety. The weight of the catch runs about 9,000 cwt.

No. 21. Sat. Oct. 21, 1939 -- An Indian's Lesson in Conservation.

Co-operation in the general interest is the keynote of progress! And out in British Columbia not long ago an Indian resident pointed the way to many of his white brothers in giving the spirit of co-operation effect.



Sam Sampare, of Skeena Crossing, had some logs. He planned to drive them down the Kitseughla River late in the spring. But on the streams were salmon spawning beds and a log drive when the waters had dropped would have threatened the beds with very serious damage.

The local inspector of the Dominion Department of Fisheries had a talk with Sampare, pointing out the harm that might be done. He emphasized that to damage spawning beds would be detrimental to Indians as commercial fishermen and as people who would depend a good deal on salmon runs as sources of domestic food supply.

Sampare saw the point. He changed his plans. The logs go down river early in the spring, instead of late, and, barring accidents, the spawning beds will be undisturbed.

There's a lesson there in co-operation in the interests of conservation. The importance of fisheries conservation can scarcely be over-stressed in a country where the fisheries mean so much. Carrying it on will become an easier problem as Canadians in general learn to keep its importance in mind.

#### No. 22. Sun. Oct. 22, 1939 -- Benefits of Forestry Programme.

Canada's National Forestry Programme has been an outstanding success in improving the physical well-being and morale of the young men participating in this national project, according to reports. Boys who went into camp early last summer in poor condition, scrawny, and in some cases under-nourished, are to-day well developed, bright, eager to work and anxious to learn. A spirit of self-discipline and co-operation has been developed which is very gratifying, and visitors to the camps speak highly of the conduct and good manners of the members.

Aside from this rehabilitation of youth, much good of a practical nature has been accomplished in added protection for the forests and training in forest practice. Young men encamped in the various National Parks and Dominion Forest Experiment Stations across the Dominion have been engaged in many diversified projects, including the construction of roads, trails, fire guards, telephone lines, cabins, tourist campsites, and similar works. Almost as important have been the various kinds of improvement cuttings in the timber stands, where large areas of forest have been thinned, trees selected for the final crop pruned and, in general, desirable species favoured so that they may grow to maturity in the shortest possible time.

In addition to these activities, many of the youths have been engaged in special studies, assisting the regular staff of the Department of Mines and Resources in the remeasurement of sample plots, timber cruising, and other survey work.

Another important activity of the young men is the collection of forest insects which provides valuable knowledge for scientific purposes. This information is also of practical application in giving forewarning of possible oncoming forest insect infestations. Similarly collections being made of forest plants are adding to the knowledge of forest soils and of growth possibilities for different timbers of commercial importance.

There were under care in the mental institutions in Canada during 1937 a total of 54,855 persons, of which number 30,415 were males and 24,442 were females. Based on the general population for both sexes, the figures show that 52.6 per 10,000 of the male population and 45.1 per 10,000 of the female population received care in mental institutions in 1937. Although there was a net increase of 1,768 in the number of resident patients during the year, there was a falling off in the number of first admissions of both sexes during the year as compared with the previous year. The number of first admissions in 1936 was 9,002, while the number in 1937 was 8,703 showing a decrease of 3.3 per cent. Male first admissions showed a decrease of 5.3 per cent and female first admissions 0.5 per cent as compared with the number of first admissions in the previous year.

It is gratifying to note that for both sexes the number of patients discharged as recovered in 1937 shows a marked increase over the number discharged as recovered in 1936. In the case of males, the increase in the number of recoveries was 13.5 per cent and for females 8.6 per cent over the figures for 1936, raising the percentage of recoveries to direct admissions from 15.64 in 1936 to 17.5 in 1937.

Overcrowding exists in the mental institutions and constitutes a problem which provinces are earnestly endeavouring to solve. The steady increase in the number of resident patients as shown for each year since statistics have been compiled becomes evident. While the normal bed capacity of mental hospitals in 1937 was 18.7 per cent greater than in 1931, the resident population on the same date showed an increase of 31.5 per cent over that in 1931.

Of the 41,677 patients in residence at end of the year, 32,678 or 78.4 per cent were patients with psychosis; 8,159 or 19.6 per cent were mental defectives without psychosis; 595 or 1.4 per cent epileptics without psychosis and 245 or 0.6 per cent all other types.

The average age of male first admissions in 1937 was 38.6 years and of female first admissions 38.2 years. The average age of male re-admissions was 41.1 years and of female re-admissions 42.5 years. The average age of male patients on discharge was 39.3 and of females 39.4 years. The average age of patients who died was 53.8 years for males and 53.1 years for females.

The average length of stay in mental institutions of patients who died was 5.6 years for males and 5.8 years for females.

No. 24. Tues. Oct. 24, 1939 -- Feeding the United Kingdom.

"Canada will feed us" is a heart stirring headline which appears in a British newspaper and the article goes on:

Britain will have an abundance of most of the food products which she may require during the war. This is the assurance which emerged from a recent conference between Canadian ministers, deputy ministers and other officials of the Provincial Departments of Agriculture and the members of the newly formed Agricultural Supplies Committee. It was held in Ottawa and to quote the official despatch on the subject, the fullest co-operation of the provinces with the Committee in any effort to promote the production of essential food products to meet the needs of Britain and her Allies, and the people of Canada, was pledged.



The Dominion Minister of Agriculture, the Hon. J. G. Gardiner, presided at the opening session, and in stressing the principal aim of the meeting indicated that agriculture should be so organized as to achieve not only the end in view but to safeguard the interests of the industry in the difficulties which might ensue when the war ended.

Dr. G. Barton, Deputy Minister of Agriculture, said it was clearly apparent that the people of Canada were determined that the war should not be one of great profit to anyone. He went on to explain, however, that as the fullest information was not yet available as to just what food products were required all the Conference could do for the time being was to shape a tentative programme. A Canadian delegation has gone to London to take part in the Imperial talks.

No. 25. Wed. Oct. 25, 1939 -- Weapons of Gold.

Proof that Canada is able not only to supply Great Britain with many of her food requirements but also with minerals enough to meet any crisis is indicated by the half yearly returns of the Dominion's mineral production. During the first half of 1939 this reached a value of over \$200,000,000, an increase of 4.5 per cent. over the corresponding period of 1938.

Continued expansion in the gold mining industry was largely responsible for the increased value of the mineral output. Several new mines began production and a number of the companies have made plans for the enlargement of existing plants. The output of gold totalled 2,492,572 fine ounces as against 2,219,309 fine ounces during the first half of 1938, and if the existing rate of output is maintained for the balance of 1939 Canada's production should pass the five million ounce mark for the year. The total value of gold production was over \$80,000,000, an increase of 12 per cent.

Every gold-producing province, except Manitoba, recorded increased gold production. Nova Scotia was higher by 29 per cent; Quebec rose 14 per cent; Ontario, 10 per cent; Saskatchewan 62 per cent; British Columbia, 11 per cent; and even the Yukon's output increased by 34 per cent. Reflecting the progress being made on Canada's northern mining frontier, gold production in the Northwest Territories amounted to 20,821 fine ounces as against a very small amount during the first half of 1938.

No. 26. Thurs. Oct. 26, 1939 -- Match Strips.

Ask a soldier for a light to get your cigarette or the old pipe going, and he is quite likely to hand you one of these little books of match strips, provided he does not carry a lighter. Some of you may remember a while ago we were able to impart the unexpected information that lighters had not affected the match-making business, so far as the quantity production is concerned. More and still more matches are being manufactured annually.

But there are new developments in matches, as in most other things. There were the old "stinkers" the lumberjack and mining prospector loved, and, when the thrifty housewife decided to stop having her kitchen matches "swiped" she bought "Safety" matches, many of which came from Sweden.

Now we have match strips made of paper and they are packed into little books that are either given away by enterprising advertisers or sold at a cent a time.

Ladders affect them, for they slip so easily into their dainty handbags.

Somewhere between twenty and twenty-five million of these match books are manufactured in Canada in a year. The friction strips on the match books owe their efficacy to the miner. Phosphate rock furnishes the red or amorphous phosphorus which is obtained on this continent, and mines in China or Mexico supply the sulphide of antimony. These two products are glued to the surface of the paper strip, which may have been made rough previously by a coating of glue, sand or ground glass. Manganese ore is sometimes substituted for the antimony sulphide.

It should be said that the safety match probably constitutes the most outstanding improvement in match manufacture in recent times. Landsturn of Sweden invented it towards the end of the 19th century. The matchhead itself contained the ingredients necessary for a miniature explosion. They needed only to be struck sharply to be "detonated". In the safety match, on the other hand, the ingredients are separated and will not ignite until brought together; the impact of striking the two surfaces together initiates the flame, which in turn, as with all matches, ignites the match stick of wood or paper. Safety matches were sold first in boxes with the friction strip on the outside of the box; the match books are a later development.

#### No. 27. Fri. Oct. 27, 1939 --- Copper and Resin in Shells.

One of the interesting bits of information that came to us in connection with the war, through the excellent correspondence of the Canadian Press from overseas is that Canadian copper and resin are playing a vital part in the mighty British effort to produce an endless flow of ammunition. The role of both was displayed in a visit to a huge shell factory which is turning out vast quantities of all types.

Copper is essential for the bands of the shellbase. It is necessary for firing. Resin is used to solidify shrapnel in the shell tip. Round shrapnel bullets resembling bullseyes in the candy shop are carefully weighed and dropped in the shell. Resin is poured in from a teapot. Sometimes in Canada we spell it "rospin".

The factory, one of Europe's largest, has been working day and night making shells for the last two years. It makes 27 types up to 250-pounders.

Shells are forged in a roaring inferno where it is necessary to watch to prevent stubbing the toes over red hot billets. In the midst of all the hubbub a dart board was in place and a worker sharpened a dart for a luncheon game.

The manufacture of 250-pounders is a real thrill. Ruddy billets are tossed around like footballs. They are pointed and left lying on the floor like nightmarish cigars. The guide said these monsters are treated like babies. After forging and knocking into shape by a 1,250-ton press they must be bedded with sand for a week to prevent chill, as the steel is sensitive.

A section of the factory reminiscent of a Cape Breton coal mine is the washhouse, with clothing on hangers hoisted to the ceiling instead of hung on a wall.

The manufacture is efficient -- a company official said there is only one defective shell in 7,000.

The plant also makes oxygen tanks for high planes. These are made from a disc forged into shape and then shot from under the end of a plunger apparatus with a boom and the motion of a gun.



In another factory forging for shells is made from a process smuggled by a German refugee. Officials credited the process with speeding up manufacture. Forgings later are sent to other plants for machining and finishing.

No. 28. Sat. Oct. 28, 1939 -- Moving the Great Grain Crop.

So far this season there has not been the normal movement of Canada's grain to the United Kingdom, which is a feature of our fall commerce. This need not dishearten people, for we are told by the authorities that every bushel will eventually be required, and only a little patience is necessary. One thing is certain, it is not the German U-boat menace that is the cause. It is well worth remembering that not a single cargo from Canada has been lost since the war began. Our own convoy system, synchronizing with that of Great Britain and France, has been an epic in transportation from Canada to Europe. While all the details are not made public, because such knowledge would mean knowledge to the enemy, it may be said definitely that the situation regarding Canada's grain crop of 1939 is part of the general plan to feed the allied countries.

This year Western Canada produced over 450,000,000 bushels of wheat and over 350,000,000 bushels of oats, barley and rye. It is the second largest crop in our history. It is one of the factors in this new war that will prove of immense service to the Empire and her allies in their struggle for the preservation of our western civilization.

Moving that western crop thrills the imagination. Usually harvesting begins early in August and much of this grain is carried by the Canadian National and Canadian Pacific Railways to the huge elevators at Fort William and Port Arthur, and to Vancouver, before threshing gets under way in the stretches farther north. This year, however, rains delayed harvesting in southern sections and this created a difficult problem for the railways. It taxed their facilities to the limit.

Many thousands of cars are used in transporting the grain. When the movement was at its height over 1,500 loaded cars passed through Winnipeg daily. The capacities of these cars ranged from 40 to 60 tons and the average load was 1,600 bushels of wheat. The elevators at the Head of the Lakes have a capacity of 92,000,000 tons.

From the Head of the Lakes the final distribution begins. The grain travels by vessels and railway trains to various ports on the Atlantic Coast, and on ships again it goes across the seas. On the Pacific Coast also the ports are busy and millions of bushels travel safely to the rest of the waiting world that is hungry for Canadian wheat and other grains. By the way, the elevators in Eastern Canada have a capacity of 80,000,000 bushels, and they are distributed at various points as far as Halifax.

No. 29. Sun. Oct. 29, 1939 -- The Canadian Army Commander.

The commanding officer of the Canadian Army which is to go overseas is Major-General Andrew George Latte McNughton, one of the most distinguished men in the Dominion, apart altogether from his experience and ability outside of war. In war he is noted, for he commanded that remarkable heavy artillery from Canada in the Great War. A McGill University publication said of him, when he was given the L.L.D.:

"In recognition of his distinguished services and of his remarkable ability as an officer of artillery, in which branch of the service he developed new methods of practice which proved an important factor in the success of the Canadian Corps, Gen. McNaughton was given the honorary degree of Doctor of Laws from his Alma Mater."

It is unnecessary here to recall the various events of his brilliant career since he was a schoolboy, but rather to bring out some points about the man himself that have endeared him to a vast number of Canadians. His appointment to lead the Canadian Land Forces makes him in a peculiar sense our own.

He is a product of the West, a native of Moosomin, Saskatchewan. By profession he is an electrical engineer, and he was schooled in Quebec, at Bishop's College and McGill. Then he had military training in England.

The Dominion Bureau of Statistics is but a stone's throw from the National Research Council building, where General McNaughton was President, the most outstanding position of its kind in Canada. So he was often to be seen in the stateroom section of the street car on his way to his office. The street car is still the transportation vehicle in which one sees most of life and meets most people.

General McNaughton likes to talk to people, and it was characteristic to see him sitting next to someone he knew or didn't know, and chatting away with enjoyment, his shoulders hunched and his knee crossed high up, his expressive eyes gleaming.

The man in the street calls him "Andy". It is a beloved name; even to those who are not particularly interested in St. Andrew's Day, which is in the offing. The abbreviation of the name is even more than an expression of goodwill. It is an evidence of a stir of affection.

No. 30. Mon. Oct. 30, 1939 -- Bacon for the United Kingdom.

Here is what a Canadian Press cable from Liverpool, England, said a couple of months ago:

"The appetizing smell of frying bacon from 1,500 Northern England households next Thursday will mark a novel campaign by the Canadian Government to increase the sale of this popular breakfast menu item in Great Britain.

"Canada has sent free packages of Canadian and foreign bacon to householders and asked the recipients to say which they like best and why.

"Dr. Carl Winkler, of the Canadian National Research Laboratory, Ottawa, is here awaiting replies. The question is what kind of bacon to send to Britain.

"Experts claim that 24,000,000 slices of bacon are consumed daily at British breakfast tables."

Only a very few years ago Canadian bacon in the United Kingdom was notable for its absence from anything like a fair proportion of British breakfast tables. Denmark was the great provider. Sweden and other Baltic countries, Ireland, Holland, Poland, etc. sent enormous supplies of this commodity, and Canada was nowhere in the race.



All this has been changed within the last few years. While Denmark still holds the chief place in the British market, Canada has forged ahead of her other rivals and has climbed into second place. Denmark's supply at the present time is running about three times greater than that of Canada.

The United Kingdom's largest supply of imported hams is purchased from the United States, with Canada in second place. The Argentine Republic is third, but the Canadian contribution is ten times that of the Argentine.

No. 31. Tues. Oct. 31, 1939 - Apples and Hallowe'en.

Hallowe'en, as the feast of apples, has a special significance this year. It affords an opportunity to support the appeal of the Government of Canada for co-operation in bringing about a larger consumption of apples during the next few months. An abnormal quantity of apples has been thrown on the Canadian market through the curtailment of shipping space as a result of war.

The apple is more closely associated with Hallowe'en than any other fruit or vegetable; indeed, the apple is interwoven with the history of mankind since the creation. When Adam was appointed to dress the Garden of Eden and to keep it (Genesis II, 15) the apple was fated to be of overwhelming importance to the whole human race. In this connection, the legend of the Apples of Paradise figured in the lore of ancient Egypt more than 5,000 years ago. These apples were said to show in their lozenged shape the outline where Eve had taken a generous bite. In this Egyptian lore there was mention of other apples, the apples of Iskhahar, all sweetness on one side and bitterness on the other.

There are special reasons why the apple is closely linked with Hallowe'en. In pagan times at the festival of Pomona apples played an important part and were distributed as gifts. Children went from house to house asking for Pomona apples in the same way as children in Canada solicit Hallowe'en apples today. Pomona was the Italian goddess of fruits, particularly apples (poma) and at her festival the ducking for apples in tubs of water was a distinctive feature of the celebrations in the homes. At the same time, the eve of the 31st of October, and the preceding days around the end of the month, were the occasions of harvest and other ceremonies in various countries particularly in Britain and other countries under the sway of the Druids. When Christianity was established and the 31st of October named as All Hallow's Eve or Hallowe'en as the vigil of Hallowmass, or All Saints Day, it was only natural that many of the pagan festivities which were in accordance with the Christian religion were adopted or continued in use by the Christianized pagans, particularly the merry indoor customs associated with the apple, and in these times at Hallowe'en it still is the principal association in the festivities for the occasion.







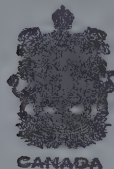




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DEPARTMENT OF  
TRADE AND COMMERCE



**A FACT A DAY ABOUT CANADA**

FROM THE

**DOMINION BUREAU OF STATISTICS**

**NOVEMBER 1939**

**SIXTH SERIES**



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James Muir,  
Editor.





from the

Dominion Bureau of Statistics

No. 32. Wed. Nov. 1, 1939 -- The Month of November.

"When chill November's surly blasts made fields and forests bare", wrote Robert Burns. Usually our November weather is for the most part gloomy and forbidding but the weather prophets assure us that this November will be an exception. It is to be bright and sunshiny.

The month was named by the Romans from the Latin word "novem", meaning nine, because it was originally the ninth month. Of course, it is really our eleventh month. The number of days in the month was not definitely settled until the time of Augustus, since when it has had thirty days. In Germany it is the Wind month.

The birthstone for November is the topaz and the flower is the chrysanthemum.

November saw a great event in Canada. It was the driving of the last spike in the Canadian Pacific Railway on the 8th in 1886. Another important event was the reduction of letter postage to two cents in 1890.

Great events of the month included Da Gama's rounding of the Cape of Good Hope in 1497, the failure of the Gunpowder Plot in 1605, the opening of the Suez Canal in 1869 and the end of fighting in the Great War in 1918.

Famous birthdays included those of Andrew Carnegie, Samuel L. Clemens, George Eliot, Martin Luther, William Pitt (Lord Chatham), Sieur de la Salle, Robert Louis Stevenson, Oliver Goldsmith, Sir Wilfrid Laurier, Sir Philip Sidney, Sir Gilbert Parker and Winston Churchill.

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No. 33. Thurs. Nov. 2, 1939 -- Effects of War on Agriculture. /

The effects of war on agriculture is a most important question today, and so a statement made by Dr. E. S. Archibald, Director of Dominion Experimental Farms and a member of the Agricultural Supplies Committee, is very timely. He gave an outline of some of the effects the Great War had upon the basic industry of the Dominion, and the opportunity in the present war to profit by the mistakes that were made during that period.

He explained that while it is now the duty of all Canadian farmers to produce products most required for the Allies and the Canadian market, quality should be the dominating consideration. Care must constantly be observed to see that soils are not depleted, that markets are not glutted, that buying power is not diminished, so that at the end of the war agriculture will be so established, that Canadian products will have an enviable place on the world's markets because of their quality; also that a continuity of supply will be assured. If these things are borne in mind agriculture can serve Canada and the Allies better in this war than the last, and will also be in a position to serve the Dominion better when peace comes.

Conditions in the last war were vastly different, so far as agriculture was concerned, from what they are in this one. There were no huge supplies of foodstuffs in 1914 and practically anything could be sold. Production was over stimulated and

quality was neglected. Canada went into the war with a fair reputation for her bacon and at the end of the conflict the reputation for this product was low. Soils were abused; lands were opened to settlement that should not have been. When the drought came in 1930 and continued for several years the fibreless soils were easily blown away by high winds and the problem of Prairie Farm Rehabilitation was accentuated.

When war broke out last September, farm buying power in Canada was low, and agriculture was not in a happy position. Great Britain is well organized to buy food-stuffs and has declared that she will give preference in her buying of certain products, but as yet it is not known just what these products will be, nor in what volume they will be required, except that Canadian bacon and Canadian cheese will be necessary in substantial quantities. When it is known just what products the needs of the war will demand, farmers in Canada should be prepared to supply them. There are opportunities in suitable areas for increased flax products, also for soybeans, to mention only two.

Dr. Archibald explained that there is a wide range of uses for soybeans in industry apart from their value as feed for livestock. In whatever direction the efforts of the farmers of Canada may be directed to help in the war, it should be linked to a programme that has for its object better agriculture on a basis that will require little, if any, readjustment when peace comes.

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No. 34. Fri. Nov. 3, 1939 --- Canadians Growing Taller.

There comes a story out of Toronto with which the Dominion Bureau of Statistics has some connection, that is of intense interest. It shows that Young Canada is growing taller and heavier. Recordings of weight and measuring machines in Toronto schools, where 90,000 children were examined, show this. Toronto is so large a city and has such a representative population that the result of the survey may be taken as typical of the whole country.

Upper Canada College provides practical proof of this upward trend. It has replaced the usual six-foot bed by a seven-footer because the boys' feet were hanging over the ends.

The Toronto report states that, due to proper feeding, good general care and preventive medicine, children have developed two or three years beyond the currently accepted average and a university professor credits the increased robustness of youth to the "more widespread and liberal use of milk, cheese, fruits and vegetables".

Since 1920, says the report, the average height of university freshmen has jumped 1-3/4 inches, or from 5 feet 8 inches to 5 feet 9-3/4 inches and the average weight has increased from 138 to 144 1/2 pounds.

It is quite common nowadays to see sons taller and bigger than their fathers. It was not so common in the last generation. A six-footer used to be reckoned extraordinarily tall. Six footers are now to be seen everywhere.

Now the average height of all mankind a few years ago was estimated by the statisticians at 5 feet 5 inches. Probably it is a little more than that now. However, there were races that, according to tradition, were taller than other races. There were the Scandinavians, notably the Norwegians and Swedes, who were very tall, like the Highland Scots and certain types of the Irish. The blonde Normans who invaded England are reputed to have been very big strong men.



No. 35. Sat. Nov. 4, 1939 -- Giants in Those Days.

"There were giants in those days" is one of the favourite expressions regarding the great figures of the past. Apropos yesterday's talk about Canadians generally growing taller, there have been instances where men nurtured properly, no doubt by clever mothers, were exceedingly big and strong. Some time when you travel abroad and visit Scotland, you will see in Stirling Castle, the sword of Sir William Wallace, the Scottish patriot who gave his life for the liberty of his people.

- That sword weights 200 pounds. Just fancy the strength and size of that blonde giant who could hold a 200 pound sword at one end and wield it with ease. What devastation to the enemy he must have wrought; indeed, we know that he did..

The sword must have been greater than that of Goliath, for David, you remember, was able to carry it and no young boy we ever heard of could carry Wallace's sword around.

The suit of armour of Richard the Lion in the Tower of London shows that he was not a tall man. No six-footer could get into it. Henry the Eighth must have been tall. His armour, also in the Tower, is large.

The Highland Scots were big men and they were in much demand as soldiers in Europe. Their powerful arms wielded claymores that were the dread of their opponents. They lived mainly on oatmeal while on active service, so they were easy to ration.

Which is a reminder of one Canadian Highland Scot from Manitoba who did a notable thing in the Great War. Glenlyon Campbell -- incidentally a direct descendant of Captain Campbell of Glenlyon -- was the member of parliament for Dauphin. He raised a regiment with no man in it under 5 feet 11 inches in height, but the authorities later thought it better to split up the regiment. Mr. Campbell himself was 6 feet 5 inches. He had heard about the remarkable height of the Australian troops and the Ghorkas and he wanted to go one better.

This is an absorbing topic which anybody can follow up. As a beginning note the size of the men on the outstanding rugby teams of today and you will parody the saying with which this Fact began and say there are giants in these days. Sir Wilfrid Laurier owed much to his magnificent presence.

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No. 36. Sun. Nov. 5, 1939 -- Canada's Public Debt.

The net direct debt of the Dominion Government as at March 31, 1938, was \$3,101,667,570. If the direct liabilities of the Provincial Governments are added at \$1,260,256,621 as well as the direct liabilities of all Canadian municipalities in 1937 the total net direct public debt of Canada would stand at \$5,827,411,009.

The net direct debt of the Dominion Government is arrived at by taking the gross liabilities, less sinking fund, offsetting the funded debt payable in London and then deducting the active assets as follows: Cash; Bank of Canada class "B" shares; Advances to Provinces for Unemployment Relief, Housing Loans and Alberta Subsidy overpayment; Other Advances to Canadian Broadcasting Corporation, Canadian Farm Loan Board including Canadian Fisheries Loan Act, Canadian National (West Indies) Steamships Ltd., Dominion Housing Act, 1935, Foreign Governments; Railway Accounts, Soldier and General Land Settlement Loans; Miscellaneous Current Accounts including advances to Royal Canadian Mint, Canadian Government Railway Accounts, etc.

The guaranteed or indirect debt of the Dominion, consisting of guaranteed securities, etc., and guarantees to Provincial governments amounted to \$1,539,595,648, making a grand total of \$7,367,006,657. The chief item in the guaranteed or indirect debt is to railways at \$803,740,048.

The outstanding funded debt of the Dominion Government, payable in Canada, London and New York, less sinking funds, stood at \$3,252,577,384.

The total net direct liabilities of the Provincial Governments at the end of their respective fiscal years in 1938 were as follows: Prince Edward Island, \$7,045,535; Nova Scotia, \$72,177,016; New Brunswick, \$77,079,831; Quebec, \$212,020,351; Ontario, \$438,293,684; Manitoba, \$67,166,545; Saskatchewan, \$118,072,715; Alberta, \$122,344,727; British Columbia, \$146,056,217.

All provincial governments with the exception of Prince Edward Island have what are known as indirect or contingent liabilities. These government guarantees are for loans to or bonds issued by railways, municipalities, corporations, or other institutions. In the event of non-payment of this debt by the companies issuing the bonds provincial governments are liable. There is generally, however, good security and the liabilities guaranteed are never included in the balance sheet with direct provincial debt.

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No. 37. Mon. Nov. 6, 1939 -- Finland's Nickel.

Finland is appearing much in the news these days and there is much speculation by the news writers why this is so, for if there is such a thing as an inoffensive, peace loving people, surely it is the Finns.

Some hazard the guess that the discovery of nickel has aroused covetousness. Of this, we have no actual proof, of course, but there are one or two facts about nickel that are striking.

Nickel is a very necessary metal used in the making of certain alloys. Its greatest use is in the realm of peaceful pursuits. Kitchen implements and other household equipment very often owe their efficiency to nickel. But in war time it becomes very necessary.

Canada is very fortunate in possessing the greatest quantity of nickel. Roughly speaking, Canada produces about 90 p.c. of the world's supply, while the remainder is derived chiefly from New Caledonia. New Caledonia is a large French island north-west of Australia. It lies close to a number of British islands in that quarter of the globe. In size it is between three and four times larger than our Prince Edward Island, but it has only 50,000 inhabitants.

An important discovery of nickel was made in Finland in recent years and the mine is expected to be ready to produce in the autumn of 1940. Vast sums have already been spent upon its development. It is owned by the International Nickel Company of Canada.

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No. 38. Tues. Nov. 7, 1939 -- Poultry in Literature and Daily Life -- 1.

There is an artist, an artist in words, in the Department of Agriculture who has been sending out appeals not only to farmers but to all and sundry to do everything possible to raise food in time of war. - His latest call is to get busy with



the egg basket.

People generally are fond of poultry. It must be because of their beauty and the very real contribution they make to the domestic commissary, for nature has not endowed them with very much in the way of brains, and of affection they never betray very much either. Most of us -- at any rate those brought up in the country -- have had quite an experience with poultry. Just plain hens we used to call them.

How guilty we felt as we sat down to breakfast and the maternal inquiry came: "Have you fed the hens yet?" With a chip on the shoulder and visioning the porridge bowl growing cold meanwhile, we made for the back door to feed those blessed hens.

Yet hens are a valuable adjunct of the human scheme of things and the writer we speak of makes such an irresistible appeal in this time of war that surely we shall have to do something about it. Evidently he knows his Bible; read what he says:

"In the social customs, religion, and literature of all nations from time immemorial, poultry has played an important part, particularly in literature. Among the best known references is that to the hen and the gathering of the chickens under her wings in Matthew, Chapter 23, Verse 37, and the stark drama of the cockcrow also referred to in Matthew, Chapter 26, Verses 74 and 75.

"In the English language poultry references and phrases are numerous. For example, there are birds of a feather, in full feather, showing the white feather (from the assumption that no game cock has a white feather); feather an oar (from the motion of a bird's wing); feather his nest; fine feathers make fine birds; feather in your cap (from the old custom of adding a feather to headdress for every enemy slain); cut a feather (said when a boat travels fast); chicken hearted; she's no chicken; don't count your chickens before they are hatched; fussy as a hen with one chicken; a hen party; hen-pecked (from the fact that a rooster is a brave bird at large but is frequently under hen government, and well pecked at that in the coop); hen and chickens, a very old name from the Pleiades, the "Seven Sisters", by which the Romans were said to have steered on their first voyage to invade Britain, and then there is a whistling maid and a crowing hen are neither fit for gods nor men."

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No. 39. Wed. Nov. 8, 1939 -- Poultry in Literature and Daily Life -- 2.

The goose also comes in for its literary share, in cooking your goose; kill the goose that lays the golden eggs; old mother goose, and in Egyptian hieroglyphics, the goose was the emblem for a silly fellow, while the rooster among his many references has a cock-a-whoop; cock and bull story; cocksure; don't crow before you are out of the woods, and many other references.

Reversing modern customs, in ancient times it was a superstition that if a milk-maid at cockcrow did not wash her hands after milking, her cows would go dry.

In olden times, poultry figured prominently in oaths, sacred and profane. In Henry IV, Shakespeare writes "By Cock and Pie, Sire, you shall not away tonight". In the days of chivalry, it was the practice to make solemn vows for the performance of a certain enterprise. This was usually done at a festival, when roasted poultry was served in a dish of gold and silver and presented to the knight who then made his vow with great solemnity.

In the temples of the oracles of the Greeks and Romans, chickens were sacred birds. There is an old Roman story that when the soothsayers, or augurs, told Publius

Claudius Pulcher, the Roman Consul, who was about to engage the Carthaginian fleet in battle, that the sacred chickens at the temple would not eat and that he had better not start the battle, he replied in breezy, sailor-like fashion "Then toss them into the sea that they may drink".

The rooster was a revered bird in ancient times. Because it gave notice of the rising sun, it was dedicated to Apollo, the sun god, and because the rooster also summoned men to business by his crow, it was also dedicated to Mercury. "Never sacrifice a white rooster" was one of the doctrines of Pythagoras, because it was sacred to the moon. The Greeks said "Nourish a rooster and sacrifice it not", for all roosters were sacred either to the sun or the moon, because the birds announced the hours. The rooster was also sacred to the Goddess of Wisdom and to Esculapius, the god of health. Therefore, the rooster represented time, wisdom and health, none of which wa. ever sacrificed.

In Mahometan lore, Mahomet found in the first heaven a rooster of such enormous proportions that its crest touched the second heaven. The crowing of this celestial bird arouses every living creature from sleep except man. The Moslem doctors say that Allah lends a willing ear to him who reads the Koran, to him who prays for pardon, and to the rooster whose chant is divine melody. When this rooster ceases to crow the Judgment Day will be at hand.

Before Christian times, the rooster was the war emblem of the Goths, and later in Christian times was placed on church steeples to remind man not to deny his Lord.

In poetry, various odes have been addressed to farm birds.

The chief interest in poultry in these days is that it is an excellent food product at any time of the year. To get the best value it should be bought by grade. The grades are Special, Grade A, Grade B and Grade C, each indicated by a distinctive tag. The number of poultry on Canadian farms this summer was 62,405,200.

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No. 40. Thurs. Nov. 9, 1939 -- Large Increase in Marriages.

All Canada is talking about war and what it entails, and some statements issued by the Dominion Bureau of Statistics have aroused more than passing interest. One of these caught the newspaper headlines. It told of the extraordinary increase in marriages during September and October, the first two months of the war. The increase over the same two months of last year was more than 63 per cent.

The records of all the outlying districts have not arrived yet, but they will not probably alter the percentage increase. The fact is that during September and October 30,526 young people entered into holy matrimony as against 18,672 in 67 cities and towns of Canada in September and October a year ago.

In a country of only eleven million people that is a lot of weddings. The boys are going to war and their sweethearts in great numbers are sending them off in all the splendour of the benedict.

What courage these girls have! Not much weeping, but just sending their boys away knowing something of the wifely loyalty and sacrifice that gives heart to a man and speeds him to the highest endeavour. Is it not young womanhood at its best?



Is it not faith and unutterable goodness? And how it stirs the older folk who have loved and lived in good times and distressful times and know the genuine happiness of wedded life in a real home.

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No. 41. Fri. Nov. 10, 1939 — Bugs.

A day or two ago we were talking about hens. Let's have a word about bugs. That word "bugs" covers a multitude of pestiferous insects and it has to do with the effort we are all making to add something to the strength of Canada in winning the war against her enemies.

Poultry, you who have had experience will remember, are apt to acquire a crop of those little red insects or bugs that keep them from doing their best. They are a terrible nuisance to those who have to do with fowls, crawling up the arms and running all over one's body. The only comfort is that they don't stay long, for they cannot, or it is said they cannot, exist on the human body.

Well, bugs of that kind and all other insect pests have to be kept down. There is no doubt, however, that during recent years the public has realized that an adequate supply of food, both vegetable and animal would have been largely impossible without the knowledge gained from research work by entomologists, plant pathologists, and other science workers. Sufficient data is now available for the control of most of the important insect pests in Canada. In any campaign having as its objective a greater production of crops in the Dominion during the war, the entomologist is in a position to render important aid.

During the last Great War, the Dominion Entomological Service adopted a slogan "Crop Protection Means Crop Production". In the present world crisis it is equally important that every effort be made by farmers, fruit growers, and all others who produce crops, to realize the importance of protecting grain, fruit, vegetables, and other commodities from damage by insect pests. Co-operation in fighting such pests is most essential in any effort to produce more and better crops. Insects can destroy substantial supplies of food. They are insidious in their operations, and must be sought out and destroyed.

During the present emergency, the Canadian Insect Pest Survey, directed by the Dominion Division of Entomology, can render a particularly useful service. With the assistance of the reporters of the Division and the Provinces, prompt advice is received in Ottawa of any insect outbreak of importance occurring in any of the provinces of Canada. The information, in turn is distributed in districts where it will do most good. It is impossible to estimate the extent of insect destruction, but it is constantly decreasing.

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No. 42. Sat. Nov. 11, 1939 — Remembrance Day

This is an extraordinary Remembrance Day. It is a day of remembrance of the signing of the Armistice at the eleventh hour on November 11, 1918, which ended the Great War. This was only 21 years ago. Only 21 years since the war to end war ended, and we are at war again.

When this war is brought to a conclusion there will be another Remembrance Day - possibly it will receive another appropriate name - and the memory of 1914 - 18 will begin to fade. Perhaps it has begun to fade already, for a new generation has arisen and all that it knows about the Great War is what it has read and heard.

But as those who came close to the Great War continue to go down into the dark valley until all have disappeared, there will remain the scars, vivid and painful. Sixty thousand young Canadians lost their lives and who can tell all the story behind that great human tragedy of the Christian Era, the widowed and the fatherless, the homes bereft.

No man can estimate the loss to a country of 60,000 men with all the potentialities of the cream of our youth. But we do know that it was an irreparable loss to our civilization. Time heals gaping wounds but it cannot bring back what is lost.

And so today at Ottawa when the impressive Annual Observance was carried out, organized by the Canadian Legion of the British Empire Service League, a shadow was over the assembly. That shadow of the new war. A choir sang "O Canada", then there was the "Great Silence" and a sob arose in the throats of the people as they prayed. Old beloved hymns were sung, in them the cry to Heaven for deliverance from the spectre of destruction.

It was a strange Remembrance Day.

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#### No. 43. Sun. Nov. 12, 1939 -- Christmas Tree Trade

We are drawing close to December and December means Christmas. Already the enterprising storekeepers are hurrying us up by proclaiming from their house tops that we have only so many shopping days to Christmas. We are packing little presents, which love and affection inspire, to the dear ones across the sea, especially those who are battling so bravely for our existence. We have thoughts about the Christmas Tree.

Now and again we see in the Press statements which show that many people would ban the use of Christmas trees as a conservation measure. They are illogical.

The sought-after Christmas tree is the bushy, open-grown specimen found in pasture land or neglected fields. It is of no great height; if it were very tall, it could not be used as a Christmas tree. Owing to its many branches the trunk, small as it is, is full of knots and usable only for fence-posts or fuel or some similar rough purpose, and is hence of little commercial value, whatever its aesthetic value may be. The tall straight trunk of the typical forest tree, with its short crown, will not furnish a desirable Christmas tree.

An area of less than two hundred square miles would be sufficient to produce, in perpetuity, the number of Christmas trees now being harvested in Canada. This is insignificant in comparison with the area of farm woodlots alone, which amounts to almost 50,000 square miles. And behind this, again, lie the vast Crown timber-lands with their as yet almost untapped Christmas-tree possibilities.

The forests of Canada have far worse enemies than the man who cuts a few, or even a few hundred, Christmas trees. During the last ten years, for example, over 1,800 square miles of young second-growth timber (much of it spruce or balsam fir) was



destroyed by fire. Furthermore, on 3,000 square miles, or thereabouts, logged off yearly, from 20 to 40 per cent of the young spruce and balsam fir are destroyed during the logging operation.

Forest authorities throughout Canada feel that the cutting of trees for Christmas is a proper and wholly justifiable use. Conservation does not consist in abstaining from use, but rather in favouring full use, wisely regulated. It is felt that any voice raised against the Christmas tree should be exercised, not against the custom itself, but rather against the frequent use of wrong methods of cutting and marketing, as yet being too largely followed.

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No. 44. Mon. Nov. 13, 1939 — Swordfish.

The commercial catch of the broadbill swordfish fleet last summer amounted to almost 1,780,000 pounds which was around 700,000 pounds more than a year ago. Swordfish operations are carried on in Nova Scotia waters, the greater part of the catch being taken off Cape Breton Island.

The swordfish is like an enormous mackerel, which may equal in size the largest sharks and whose muscles are astonishingly strong. A powerful forked tail, a lofty, sail-like dorsal fin, give the creature a strength and speed in swimming equalled by few oceanic animals. The skin is naked, more or less rough, and the flesh red in colour and rich in flavour. It is regarded as a choice sea food.

These fishes are predatory, obtaining their food by fierce forays upon other fish. Their strength and sharp teeth are supplemented by the prolongation of the fore part of the skull into a horizontal flattened "sword". The power of the weapon in attack is shown and attested by the frequent piercing of boats and even of large wooden ships, through which the "sword" has been deeply driven before breaking off.

Although occasionally seen in the Pacific, the swordfish is characteristic of and numerous only in the North Atlantic, the Mediterranean Sea and about the Antilles, where in summer it approaches the shore in pursuit of schools of spawning fishes and itself becomes the object of a profitable fishery, especially in Italian waters. Along the northern seaboard of the United States it is regarded as a prime summer sport. It is taken with barbed harpoons.

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No. 45. Tues. Nov. 14, 1939 — Aluminium

Aluminium plays an important part in war as in peace and so the following from a Dominion Bureau of Statistics report may be helpful.

The reduction of aluminium ores and the production of primary aluminium in Canada is confined to the province of Quebec. In this province the Aluminum Company of Canada, Limited, operates an ore treatment plant at Arvida and reduction plants at both Arvida and Shawinigan Falls. These three plants were in continuous operation throughout 1938. At the Arvida ore plant concentrates were made from British Guiana bauxite and aluminium ingot was produced in the two reduction works. The company also operates fabricating plants at Shawinigan Falls, Quebec, and Toronto, Ontario, and in

1938 a new plant for the production of aluminium products was under construction by the company at Kingston, Ontario.

It was reported that expansion of the aluminium-reduction and alumina plants of the Aluminum Company of Canada at Arvida was completed in 1938 and that fabrication facilities were to be extended by the company at Toronto to provide for more products used in the aircraft industry.

Bauxite from British Guiana, used for the production of aluminium, is washed and dried before being shipped; at Arvida, Quebec, it is treated by a standard chemical process to remove impurities, and pure aluminium oxide is recovered. Cryolite, necessary in the production of the metal, is imported from Greenland. A very large amount of electrical energy is utilized in the production of new aluminium metal from bauxite concentrates.

No bauxite ores are mined in Canada and the principal bauxite producing countries are France, Hungary, United States, Yugoslavia, Italy, British Guiana, Dutch Guiana, and Russia.

World production of aluminium in 1938, as reported by the American Bureau of Metal Statistics, totalled approximately 583,597 metric tons compared with 489,830 metric tons in 1937 and 255,801 metric tons in 1928. During 1938, Canada produced 66,000 metric tons of the metal and ranked third as a world producer of aluminium.

#### No. 46. Wed. Nov. 15, 1939      Tin

In this machine age tin has come into great prominence. It is the rarest of the common metals. Romans and Phoenicians used to travel to ancient Britain to trade the silks of China, the cottons of India and the frankincense and myrrh and spices of Araby for the tin of Cornwall. Other things too, of course. But Cornwall has lost its leadership in production and we hear more about the tin mines of Bolivia and British Malaya, and from these and other countries comes the main Canadian supply for all those canned goods that decorate the shelves of the grocer.

Tin is known to occur in the Snowflake and Sullivan mines in British Columbia and in certain pegmatites in southeastern Manitoba. It has also been reported at New Ross, Nova Scotia. No tin ore deposits have been worked or tin ore production recorded in Canada during recent years. The Nova Scotia Department of Public Works and Mines reported that some prospecting was performed in 1938 on an occurrence of molybdenum and tin in the New Ross Area, Lunenburg County.

World mine production of tin decreased 30 per cent in 1938 compared with 1937. Much of the decline was absorbed by countries signatory to the International Tin Control scheme, their output being decreased 33 per cent compared with only 10 per cent for the nonsignatory countries. British Malaya continued to be the largest producer and contributed 29 per cent of the total world output. Bolivia ranked second with 17 per cent, Netherland India third with 14 per cent, Siam fourth with 9 per cent and China fifth with 8 per cent. The output of the unrestricted producers comprised 19 per cent of the total production in 1938, compared with 15 per cent in 1937.

As considerable tin enters world trade in the form of ore, geographical data on world smelter output differs materially from those of mine output. For example,



nearly all ore from Bolivia and Nigeria is smelted in Europe. An appreciable part of the tin ore from Netherland India is smelted in the Netherlands and the product of Siam and Indo-China is smelted in British Malaya. The only commercial tin ore smelter in the Western Hemisphere is in Argentina, and its output has increased somewhat in recent years. Germany (including Austria) produces little tin; and despite major efforts to provide substitutes, apparent consumption increased from 9,164 tons in 1936 to 13,474 in 1938. The acquisition of Czechoslovakia increased Germany's dependence on imported tin, as consumption there has averaged over 1,600 tons annually from 1936 to 1938, with little or no local production.

Germany in 1938 imported 6,412 tons of tin ore, mainly from Bolivia, but a little from German South West Africa and Argentina. Also 12,090 tons of crude, scrap and alloys, mainly as follows: Netherlands India 4,044 tons, Netherlands 3,998, British Malaya 1,732, China 764, United Kingdom 689.

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No. 47. Thurs. Nov. 16, 1939 --- Conserving Wild Life

Every now and again there appears in these Facts a little note urging the people not only to conserve wild life but to assist the authorities in doing so. There are killers amongst us always, ruthless wicked persons whose mania is destruction. Wild life plays an important part in the Canadian Economy and were it destroyed utterly wholesale devastation would ensue. So it is incumbent upon everyone to play a part in preserving the animal and bird life that is associated with human life in rendering a country rich and habitable as well as attractive and beautiful.

It is impossible to make a census of all wild life. We do it accurately enough regarding buffalo, for example, but squirrels, ducks and groundhogs are beyond us. We have a fairly good idea of increase or decrease, by means of reports from sanctuaries which have been established by the Governments, Dominion and Provincial. These national parks are the great conservators of wild life. The Point Pelee National Park in Southern Ontario, not so well known as some, is, however a good example of what has been done.

Scampering squirrels and rabbits are common throughout the park, and the lowlands region abounds in muskrat, groundhog, raccoon and red fox. Vividly coloured pheasants are numerous in the park uplands and provide an attractive sight for visitors. In the lowlands, ducks, herons, wild geese, and beautiful whistling swans along with many other species of bird life are plentiful.

A combination wild life sanctuary and vacation area, Point Pelee National Park illustrates the value of even a small national park in a heavily-populated area. Occupying about six square miles and readily accessible from the great industrial centres of Detroit and Windsor, this picturesque park attracts thousands of visitors and, at the same time, literally teems with wild life.

Lying as it does directly on one of the main routes followed by thousands of wild fowl and other birds in their northern and southern migrations, the park forms one of the outstanding bird places in Eastern Canada. It contains many acres of marshland where waterfowl find shelter and food among the beds of wild rice. Many species of bird life not usually found in other Canadian localities are either residents or regular migrants at Point Pelee.

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No. 48. Fri. Nov. 17, 1939 -- Government Laboratories

Mining operators throughout Canada are making good use of the ore dressing and metallurgical laboratories of the Canadian Government at Ottawa. A recent review reveals that a total of seventy-five major investigations on metallic ores were completed during the six-month period ended June, 1938. Forty of the investigations were concerned with ore treatments, while nine embraced special microscopic examinations, and twenty-five were related to metallurgical products or problems. Thirty-five of the investigations involved the treatment of gold ores. The investigative work required a total of 8,721 chemical and assay determinations, and the preparation and examination in the mineragraphic laboratory of 361 polished sections of ores and products.

An increasing amount of correspondence is reaching the ore testing laboratories relative to plant operating problems, treatment process of ores, alloys, chemical and metallurgical problems, and inquiries as to suitable types of equipment for certain mill operations. The chemical laboratories are being frequently requested to provide methods of analysis for the purpose of controlling and determining mill effectiveness.

Activities of the research section indicate the ever-widening range of work being carried out in the laboratories. Problems arise in connection with individual investigations of ores submitted that require increasing attention as many of such ores are of a definitely refractory character. A combination of infrasizing, panning, chemical analysis and microscopic examination employed in an effort to determine the association and mode of occurrence of the refractory gold has been found to lead to a fairly accurate conclusion on the possibilities of recovery. The utilization of certain natural resources of products for the production of alloys such as chromium steel and uranium steel has been receiving attention.

In an investigation on the use of uranium as an alloying element, high and medium carbon ferro-uranium steel ingots have been cast and others will be made. The difficulty in the manufacture of uranium steel and ferro-uranium lies in the rapid oxidation of the uranium, and the building of a vacuum or atmosphere-controlled melting-furnace has been considered in order that this difficulty may be overcome.

A rapid and accurate method for the determination of oxygen in pulps has been sought by the industry for better control of milling practice and three methods have already been examined in the laboratories. A study has been made also of methods employed or suggested in the determination of gold in pregnant and barren cyanide solutions.

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No. 49. Sat. Nov. 18, 1939 -- Indian Handicraft

More than three thousand Indians, we are told, have become self-supporting through the creation of a wider interest in Canadian handicraft. With a view to furthering this interest, an outstanding display of Indian-made articles and a demonstration of Eastern Canada Indian basket making and weaving will be held, a few days hence at the Winnipeg store of the Hudson's Bay Company. This exhibition has been arranged through the co-operation of the Indian Affairs Branch of the Government Service, which is making special efforts to revive and advance native crafts and arts among the Indians.



A group of Iroquois Indians from St. Regis and Oka, Quebec, will demonstrate their workmanship. The tribal custom of making beautiful articles from splints pounded from black ash logs and woven with sweet grass from the marshes will be demonstrated by noted basket makers. An exhibition of weaving with yarn instead of with splints and grass will be given by a young Indian girl, who acts as instructress at an Indian residential school.

In addition to a collection of baskets, wood carving, woven and knitted goods and other articles, there will be a special display of museum pieces of ancient Indian handicraft selected from the historical museum of the Hudson's Bay Company, which has had a long association with Canada's Indians.

Indian handicraft in Canada has experienced a marked revival largely as a result of the efforts of the Department's Welfare and Training Service. Previously handicraft activities had reached a low ebb. The Indian basket making industry was dying out on some of the eastern reserves because of the difficulty of securing raw materials and of marketing the finished goods. This traditional industry of the Indians is now being organized and co-ordinated to meet present-day conditions, and already some thousands of Indians have become self-supporting through the marketing of their handicraft products.

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No. 50. Sun. Nov. 19, 1939 -- Canadian Lime

Lime is one of the common things that have a great deal to do with our Canadian life and progress. We produce more than half a million tons of it in a year. It is also known as caustic lime, quicklime or calcium oxide. It is snow white and strongly alkaline.

In contact with water, for which it has great affinity, it increases in bulk, evolves much heat and changes to the hydrate. Unless kept in a dry place it will absorb moisture and carbonic acid gas from the air and change to the carbonate. Lime, except for certain impurities, is entirely soluble in water, the impurities being silica, alumina and iron oxide. It is never found native but limestone may contain a very large percentage.

For ordinary commercial uses, lime is obtained by heating limestone, shells, or other material composed of calcium carbonate, to a temperature high enough to drive off the carbonic acid gas. Owing to its property of hardening, by change to calcium carbonate, and its comparative cheapness, lime is the most important of building materials.

In Canada lime is marketed principally as quicklime in the lump, pebble, crushed, and pulverized forms. Less than twenty per cent of the output is marketed in the hydrated state, which is a specially prepared slaked lime in the form of fine powder. In these various forms Canada's lime output finds a multitude of uses in chemical and metallurgical processes and in construction, agriculture, and other industries. A new market for white, high-calcium lime has been opened up recently as a result of the use of calcium carbonate filler in place of imported clay in newsprint and magazine paper.

Canada possesses an abundance of limestone suitable for the production of lime, and lime is manufactured in every province except Prince Edward Island. Saskatchewan's

production, however, is intermittent, and is very small. Ontario, the leading producer, supplies more than one-half of the total Canadian output. Because of their proximity to mines and pulp mills, considerable interest has been shown recently in deposits of high-calcium limestone in the northern part of the province. Quebec, which is next in order, is the source of slightly more than one-quarter of the total output. Both high-calcium and dolomitic limes are produced in Nova Scotia, New Brunswick, Ontario, and Manitoba, but only high-calcium lime is made in Quebec, Alberta, and British Columbia.

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No. 51. Mon. Nov. 20, 1939 -- Bird Banding

Despite the popular belief that most of the wild birds leave Canada for the winter months, bird banding is a year-round activity in the Dominion. Although bird life becomes scarcer in the more northern and in the central parts of the country with the approach of winter, in other regions many of the bird-banding stations do extensive banding work when the snow is on the ground. At this time of year some inland stations are visited by Redpolls, Snow Buntings, Blue Jays, Purple Finches, Pine Siskins, Grosbeaks, and other birds. In Canadian localities where waterfowl winter in numbers valuable banding of these birds is accomplished.

Bird banding in Canada is done by about two hundred voluntary workers, who hold bird-banding permits issued under the authority of the Migratory Birds Convention Act. Because birds are international travellers, the important work of marking them with bands is carried on through the co-operation of the National Parks Bureau of the Government and the United States Bureau of Biological Survey. The success of the banding activities depends largely on the co-operation of private citizens in reporting to the central bureaus in Canada or in the United States any banded birds which come to their attention.

More than 33,000 wild birds were banded in Canada during the first ten months of the current year, and it is expected that by the end of the year at least 40,000 individual birds will have been recorded for the twelve-month period. Bird banding has been systematically carried on in the Dominion for about sixteen years, during which time approximately 380,000 birds have been banded, and more than 25,000 useful recovery records have been obtained.

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No. 52. Tues. Nov. 21, 1939 -- This Year's Apple Problem

The fruit industry has been severely hit by the curtailment of shipping facilities as a result of the outbreak of war. Thus the millions of barrels of apples usually shipped to the United Kingdom have now to be handled through the processing plants and local sales under the War Measures Act, and this is a subject with which everyone concerned should make himself acquainted.

The rate at which the apples can be handled through such channels is, of course, considerably slower than in normal years and this has led to a demand for all available storage space. This presented a difficulty which has been overcome by some of the processors providing large bins which would accommodate enough fruit to keep them running at capacity until the first day of next year or thereabouts, and also



by urgent appeals to growers to utilize all the space they may have on the farm.

The practice of binning of apples outside is of course accompanied by considerable wastage, either due to freezing or excessive heat in the middle of the bin. Losses, however, may be reduced by limiting the size of the bin to a thousand barrel capacity, not piling deeper than ten feet, and using baled shavings, straw or hay as insulation around the walls. If the site of the bin is on dry ground the fruit may be piled on the ground which should be covered with straw. If, on the other hand, no dry ground is available a floor of wooden boards is advisable. Some operators with past experience in the practice of binning have covered the top of the pile with spruce boughs; this they believe gives added protection to the upper layers of fruit.

Frost proofing barns and other outbuildings above ground level which could be used to store fruit may be done by providing dead air spaces in the walls or by filling around the walls with shavings or sawdust. Particular attention should be paid to the ceiling as cold air will move down through unless it is well insulated; a layer of well tramped hay, a yard deep, would suffice. These precautions entail expense and some may prefer to use heaters which may be made more effective with the aid of a fan to keep the air constantly stirred, nevertheless heaters are a constant source of expense and risk and can scarcely be recommended on that account.

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No. 53. Wed. Nov. 22, 1939 -- Sorghum

Amid all the inquiries that are flowing into Ottawa these days from people that are anxious to do what they can in every devious way to be of help to their country in time of war, some relate to sorghum. Information is wanted as to whether it may be grown in Canada to replace corn as a fodder.

The agricultural branch does not seem to be enthusiastic over the possibility, doubting the ability of sorghum to withstand drought successfully and to produce yields of fodder that compare favourably with corn. Also the Department of Agriculture says:

"It is definitely a warm weather crop and requires a much higher soil temperature for germination than does corn. Most of the varieties of both the sweet and grain types require a long frost-free growing season to reach maturity. At Ottawa the sweet sorghums do not yield as much fodder as the standard corn varieties and neither the sweet sorghums nor the grain sorghums will mature satisfactorily".

Sorghum is an annual cane-like plant resembling Indian corn in appearance and habit of growth. It has been known from the remotest periods of history and the cultivation probably had its origin in Africa, where a variety named durra is grown over the entire continent. It is put to a variety of uses. The Negroes chew the stem for the sugar and make alcoholic drinks of the grain. Varieties have been known in China from a remote period. The first seeds brought to the United States came from China in 1855 and from South Africa in 1856.

Some sorghum has been grown in the corn belt of Ontario, but not in commercial quantities. It is distinctly a warm climate plant.

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No. 54. Thurs. Nov. 23, 1939 - What to Do With Our Apples

Many are the methods that are being taken to utilize the great apple crop of 1939, since the bulk of it has been cut off from the export market. The statistics for this year will show quite a few changes in this respect. Here are some directions in which these apples may travel.

Apple concentrate and vinegar have been made for many years and utilize chiefly the juice pressed from cannery waste, namely peels and cores. A product similar to concentrated apple juice with a possible appeal is apple syrup for use as a dessert syrup on griddle cakes, corn bread, etc.

An attractive canned product made to a limited extent at present is applesauce. This product when well made from suitable varieties can be very attractive and should have good market possibilities. Applesauce has been used in making bread in British Columbia for some time, where a bakery produces an "Appeal Bread", containing approximately twenty per cent applesauce.

The supplying of fresh sliced peeled apples to bakeries was undertaken by one man in a United States city. The apples were prevented from browning by dipping in weak sulphur dioxide solution and were delivered promptly to the bakers in paraffin paper lined boxes. This product was received enthusiastically and developed a good demand.

The use of apples in candy has been developed very successfully in the State of Washington, where by a secret process one company produces a bar called "Aplet". Several other kinds of apple candy could be and have been devised, however, and should be well received.

Pomace, the dried peels and cores, is used mainly in the production of pectin under protected methods, but it is also used as a livestock feed to a certain extent. A product of similar use to pectin with the same possibilities would be jelly juice -- a heat extracted and concentrated apple juice for use as a jelly base.

The possibility of incorporating apples in breakfast cereals has prospects and at one time such a product was manufactured in Canada. In the Western United States at the present time a breakfast food composed entirely of dried apples is under production, as is an apple flour used in the treatment of certain digestive disorders.

At the Dominion Experimental Station, Summerland, British Columbia, a successful glazed apple product has been developed and received favourably by the baking trade. This product called "Apple Chips" and produced in any desired colour should have definite appeal in sections where cherries are not processed. This appeal should be further increased at present when one considers that over fifty per cent of the processed cherries come from Italy, involving the difficulty of ocean transport.

One other use for apples which should be considered is that of making apple ice and apple ice cream. Applesauce may be incorporated into ice cream to give a very pleasing product and good quality apple juice can be made into attractive ices, sherbets and "popsicles".

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No. 55. Fri. Nov. 24, 1939 -- Zirconium

We are learning today about a great variety of metals about which not so much was heard before. One of these is Zirconium. The metal is not produced in Canada, but the Department of Mines and Resources states that zircon, or cyrtolite, commonly occurs in greater or less amount in Canadian Precambrian pegmatites, also in the pegmatitic apatite-phlogopite deposits of the Grenville areas in Ontario and Quebec. Zircon is the most common zirconium mineral. The chief supply of zirconium ores comes from Australia and lesser amounts from British India and Brazil.

Zirconium wire is used in radio tubes and sheet metal in spinneret cups for rayon manufacture. Zirconium-silicon and zirconium-ferrosilicon are finding a growing use in steel making and zirconium powder is used in flashlight mixtures and in ammunition primers.

From a tonnage standpoint, however, the main uses of zirconium compounds are in enamels and for electrodes or welding-rod coatings, as a scavenger for oxides and nitrides in steel and as a refractory. Zirconia possesses the power of being extremely refractory toward heat, not being changed by even that of the oxy-hydrogen blowpipe flame.

It has also great radiating power. Because of this it is used in the "zirconia light", a light used considerably in lighthouses. A cone of zirconia is played upon by the very hot flame of the oxy-hydrogen blowpipe so that it glows with a very intense light.

While this is the principal use of compounds of zirconium, certain minerals containing it are found as clear beautiful stones and are used as gems.

Last year the imports into Canada of zirconium silicate were appraised at \$1,847 while those of zirconium-oxide were valued at \$24,983. The oxide zirconia was discovered in 1789 and obtained as an iron-gray powder in 1824.

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No. 56. Sat. Nov. 25, 1939 -- Canadian Tobacco

Tobacco originated in America. It was widely used by the Indians at the time when Columbus arrived and relics of the Mound Builders show that pipe-smoking was a very ancient custom among the aborigines. When the Spaniards landed in Mexico in 1519 they found the natives cultivating tobacco with care and skill. It was believed by them to possess great curative powers for such diseases as bronchitis, asthma and rheumatism. West Indians smoked. The natives of the Orinoco forests of Venezuela understood the use of tobacco as did the natives of Brazil.

The American aborigines used it in the form of cigars and for pipe smoking and it is recorded that chewing was practised in some sections. The pipe of peace carried by the tribes, which was an elaborately carved and decorated object, was smoked in common by those attending grand councils and was held very sacred. Tobacco was cultivated commercially by Indians near Lake Huron.

The Spaniards began the culture of tobacco in Haiti prior to 1535 and shortly afterwards it was extended to Trinidad, whose product soon became famous in Europe.

Soon it was developed on a large commercial scale in the West Indies, Venezuela and Brazil.

There are many varieties of tobacco and some which are not grown commercially on this continent, are cultivated in Asia Minor, India and Russia and to some extent in other European countries.

There has been a remarkable expansion in the growth of tobacco of late years in Canada. Ten years ago the area under cultivation was 41,400 acres and the crop less than 37 million pounds; this year the area was 93,000 acres and the crop over 108 million pounds. Tobacco is now one of our quite important exports with the United Kingdom the chief purchaser. Last year our total export to all countries was valued at \$5,501,000 and to the United Kingdom alone \$5,236,000.

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No. 57. Sun. Nov. 26, 1939 -- An Internment Camp -- 1

It has been necessary to establish a few internment camps in Canada to take care of enemy aliens who have been detained in the Dominion for acts "likely to assist the enemy".

How are they treated? Are they subjected to the treatment handed out in the concentration camps of Germany, of which we read such horrible details? Here is what a representative of our own Public Information Office writes. The writer is a highly trained and reliable newspaper man who has spent many years in Europe as a special correspondent. He visited the concentration camp at old Fort Henry, near Kingston, Ontario.

The men lamented their lost freedom but made no complaints of the treatment they receive. Each room of the internees has its room captain. The room captains have a camp captain and together they are responsible for allotment of necessary fatigue duties and for the maintenance of cleanliness and order within the camp. It is a system of responsibility worked out with the cooperation of the camp commandant and the adjutant and quartermaster.

The result has been an almost entire lack of breaches of discipline. Offences have been minor and few. Since the camp opened, there has only been one orderly room case; and that was not serious. The rooms are models of cleanliness.

The camp captain served with the German army in the World War. His "Achtung" as he calls the internees to attention has the soldier's challenge. Like the rest, he regrets other days. "But under the circumstances," he told the visitor, "we are as well treated as we could expect."

Internees draw the same rations as a Canadian soldier and at Fort Henry have the advantage of a German chef, interned with them, and promptly assigned by them to take charge of their cooking. He writes out his Essen Karte (bill of fare) with a touch of professional pride.

Here are his menus for two days, as written out by the cook himself: First day - Breakfast - Potato cake and bacon, bread, coffee; Lunch - Boiled beef, potatoes, cabbage, bread and butter, coffee; Supper - Rice soup, bread and butter, coffee. Second Day - Breakfast - Oatmeal, bacon, bread and butter, coffee; Lunch - Irish beef stew, potatoes, tea; Supper - Jellied beef and pork, bread and butter, coffee.



No. 58. Mon. Nov. 27, 1939 -- An Internment Camp -- 2

Conditions in the internment camps are very far removed from the brutalities of German concentration camps as revealed in the British White Paper. Under the necessary censorship and within limitations, internees at Fort Henry can receive and send post-free, both parcels and mail. At fixed periods, they can receive visitors. Five visitors came while the writer was in the camp. In each case, the visitor was the wife of a man interned. The man was escorted from the camp proper to an orderly room where he was permitted to talk with his wife. The pair on either side of a table. There was no suggestion of having to talk through anything remotely resembling a grille.

To break the monotony of life without active occupation, some of the men are developing old hobbies. One internee, a designer in civil life, retains his skill by sketching his comrades. Another is painting Christmas cards. A woodworker, devising souvenirs, protects his work corner with a grille. "I don't want the others here," he says. "They take my tools." A radio enthusiast has strung a mock aerial in one of the rooms. But the antennae and leads are only pieces of string. Chess and cards are favourite games.

To the press photographer, the internees have rooted objection. They were asked if they would consent to photographs showing them in groups playing medicine ball, cards of chess, or seated in the dining room they built for themselves -- photographs not bringing out their features. "If it is an order we will submit," a room captain replied.

"It is not an order," was the reply, "it is voluntary. If you object, there will be no photographs."

"We will not object," the room captain said, "providing we have a guarantee that the photographs will not be given to the press."

"We will do better," was the rejoinder. "As you object, we will not take any photographs in the camp at all."

And the only photographs secured were of the administrative staff and arriving mail.

But if the internees dislike press photographers, they welcome the visiting relatives with tremendous enthusiasm. As the visitor passes by, they line up by the cook-house and shout German greetings. German songs echo curiously over old Fort Henry.

Yesterday a visiting wife looked up, smiled, and waved her hand. And the impromptu choir waved back and sang -- "A hundred days we wait for you, Rose Marie."

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No. 59. Tues. Nov. 28, 1939 -- Building a Post Office

The new post office which was opened to the public of Ottawa this week is a fitting memorial to Canadian production, workmanship and skill. It is one of our great national buildings. Eight storeys high and of modern architecture, the building derives its design origin from the French Renaissance -- its lofty steep roofs and towers adding yet another Old World touch to Ottawa's distinguished skyline.

Canadian copper provides the sheathing for the steep roof sloping back from the sixth floor, broken by picturesque dormer windows for the seventh and eighth floors. Already the glowing, burnished red copper has changed to a light green, harmonizing with the Parliament Buildings and other public buildings around Connaught Square. But the architect tells us that it will take 25 years of weathering before the new roof will have its permanent coat of "verte green".

One of the earliest known metals, copper has been increasingly useful throughout the ages. Its history of utility on this continent dates back to the early Indian tribes. The Canadian output of copper has averaged over 50,000,000 pounds per month for this year, an increase of more than five per cent over last year.

Of finely finished gray limestone, the walls of the post office blend well with the granite of the National War Memorial just across the square. This "Queenston Limestone" was obtained from the quarries of historic Queenston Heights, near Toronto.

With the revival of the building trade, Canadian limestone is coming into its own again. In recent years it has been used extensively for public buildings throughout the country. The new Supreme Court Building at Ottawa is being constructed with a gray limestone exterior.

A remarkable feature about Manitoba limestone (used most effectively in the Provincial Parliament Buildings in Winnipeg) is that its geological age can be learned from the prehistoric skeletons "petrified" within the stone. Models of rare animals, forest and vegetable growths of all periods are perfectly preserved in the limestone walls in both the interior and exterior of Winnipeg's fine legislative building.

The production of Canadian limestone has increased from three and a half million tons to almost six million tons last year.

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No. 60. Wed. Nov. 29, 1939 -- Black Marble

Something more might be said of this new post office because of the fact that the base of it is faced with black marble blocks about five feet high. Passersby are attracted by its polished lustre, and closer inspections reveals a lacy network of calcite veinlets running through the marble which gives it a lustrous sheen of great beauty. Because of this quality, the marble is known as "Silvertone Black Marble." Not only is it used extensively outside, but in the interior for pilasters, window sills, floor borders, wall facings, and for the columns in the lobby.

This silvertone black marble, beautifully polished, travelled only a short distance to find its abiding place in the new Post Office -- it was taken from a quarry not thirty miles south-east of Ottawa, at St. Albert. The comparatively recent discovery of this quarry is itself a romantic story, and already its rare black marble has been shipped to such distant points as Radio City, New York, and Vancouver, B.C. It is used in more than 30 public buildings across the Dominion, including several of Ottawa's newer national structures. In wresting it from the quarry, the stonecutters find that the deeper they cut, the better is the quality of of marble. Blocks are now being cut from which solid pillars of considerable height can be modelled.



Marble production has increased in Canada by over 30 per cent in the past five years. About 22,000 tons were quarried last year.

The hidden framework of steel manufactured and fabricated in the Dominion, figures carved from black granite obtained at St. Joseph d'Alma, Quebec, everlasting nickel silver fittings and trim on the ground floor, and doors of Canadian red birch in seven-ply flushwood, are but a few of the distinctive features in the building.

The great granite lions bearing coats of arms, which guard the entrances and corners of the building, and the various ornamental cornices and figures modelled in limestone pay mute tribute to the skill of the artists who grouped and modelled them by hand, using an electric compressor for final touches to the figures.

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No. 61. Thurs. Nov. 30, 1939 — Saint Andrew's Day

This is the one day of the year the Scots claim as their very own, particularly Scots abroad. Saint Andrew is the patron saint of the Scottish nation.

Saint Andrew, which is a Greek name, was one of the Twelve Apostles, a brother of Simon Peter, of Bethsaida on the Lake of Galilee. He had been a disciple of John the Baptist, through whom he first met Jesus. On John's word he followed Jesus and brought his brother Peter to Him. After his definite call he lived for a time with Peter and their fishing partners James and John at Capernaum.

Tradition early gave him a conspicuous place among the Twelve and very important "Acts of the Apostle Andrew" were in circulation as early as the middle of the second century, but have survived only in later recasting. There were also Acts of Matthew and Andrew and of Peter and Andrew and a "Martyrdom of Andrew". A gospel of Andrew is mentioned later, but not otherwise known.

Tradition accredits him with preaching in North Greece and Epirus and in Scythia and being martyred at Patras in Achaia on a cross shaped like an X at about 70 A.D.

The Cross of St. Andrew is the national banner of Scotland. It is a white saltire on a blue ground. It was adopted by the Scots at an early date. An old tradition says that one of Saint Andrew's bones was preserved for many centuries in one of the early sacred buildings of St. Andrews, now better known for its golf course.

There were, at the Census of 1931, over 1,346,000 people of Scottish origin in Canada, the third in importance from a numerical point of view, French being first with 2,928,000 and English second with 2,741,000.

Prince Edward Island is the only province of Canada where the Scots lead the population. The following are the provincial populations of Scottish origin: Prince Edward Island 32,489, Nova Scotia 139,992, New Brunswick 56,561, Quebec 87,300, Ontario 549,648, Manitoba 112,326, Saskatchewan 121,485, Alberta 110,720, British Columbia 135,038, Yukon 576, Northwest Territories 215.

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DEPARTMENT OF  
TRADE AND COMMERCE



**A FACT A DAY ABOUT CANADA**

FROM THE

**DOMINION BUREAU OF STATISTICS**

**DECEMBER 1939**

**SIXTH SERIES**



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James Muir,  
Editor.





from the

Dominion Bureau of Statistics

No. 62. Fri. Dec. 1, 1939 -- The Month of December

December, the last month of the year, was once the tenth month. That is why the ancient Romans named it from "decem" the Latin word for ten. In Canada it is the first month of real winter and the fuel bill mounts sharply. The hockey players are beginning to buzz around the rinks that are without artificial ice, and the snowshoers and skiers resume their winter thrills.

The birthstone of December is the turquoise and its flower is the holly. In those districts of Canada where the winters are long and cold, the beautiful holly with its red berries is not as successfully grown as it is in other parts where the winters are less severe.

December is probably the most-loved month of the year, because of the spirit of Yuletide that belongs to the great holiday of Christmas, when we celebrate the birth of Jesus of Nazareth. It is a home-coming day for the boys and girls who have gone forth to fight the battle of life in the great world beyond the fireside of their parents. The traditional Christmas dinner is a family gathering.

By the way, may we add a word to the campaign which those splendid Canadian newspapers of ours wage yearly to have Christmas spelt decently and properly. Xmas is a hideous word. It is just thoughtlessness, of course, that causes some people to use that horrid abbreviation.

Conception Day, December 8, is celebrated widely by the Roman Catholic Church and Hogmanay, the last day of the year is a popular holiday in Scotland and the north of England.

The birthdays of some famous persons occur in December, such as Mary Queen of Scots, Isaac Newton, Warren Hastings, Jane Austen, Matthew Arnold, Beethoven, Thomas Carlyle, William Ewart Gladstone, John Milton, Louis Pasteur and Eli Whitney.

Great events that have occurred in December include the start of the voyage of Sir Francis Drake when he left England in 1577 to sail round the world. There was the landing of the Pilgrims at Plymouth in 1620, Napoleon was crowned Emperor of the French in 1620, the Monroe doctrine was announced in 1823, Confederation was formed by Australian colonies except New South Wales in 1835 and the Hudson's Bay Company transferred Government rights to the Dominion of Canada in 1869.

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No. 63. Sat. Dec. 2, 1939 -- Difficulties in Recording Trade

The following will make clear some of the difficulties that are experienced by External Trade statisticians in recording the facts of international commerce:

Few countries attempt (and those with but qualified success) to credit all imports to their country of origin, i.e., the country in which the goods were actually

produced or manufactured. Neither is it possible, in respect to large proportions of international trade, to ascertain or show, at the time of the exportation of goods from the country of production, to what country they will be finally conveyed for consumption. Could these particulars regarding imports and exports be accurately recorded in every case, discrepancies in trade statistics would largely disappear. But most countries, including Canada, record their imports as from the country of consignment, that is, the country with which the actual commercial exchange takes place. While this system fails in many cases to disclose the country of actual origin of the goods, it does more clearly demonstrate the "balance of trade" upon which international financial adjustments are based.

It is evident that systems such as are now followed, in conjunction with the great volume of indirect trade, must result in considerable divergencies in statistics. This is the dominant factor in producing differences between the trade records of Canada and those of European and other overseas countries, for a very large part of Canadian produce finds its way to the country of consumption via a third country.

Canada, like many other countries, attempts to ascertain the country of final destination when goods are exported, but in many cases this is not positively known, even to the owner of the goods. A large part of Canada's exports to continental Europe is consigned to one of the European free ports and from there directed to the country of consumption. This fact is largely responsible for the wide discrepancy between the German and Canadian statistics of the eastern movement of trade between the two countries as so much of that trade is conducted "via" one of the European entrepot centres. German import statistics are recorded, so far as possible, according to the country of production.

Canadian exports to Belgium and to the Netherlands are normally greater than the imports into those countries for home consumption from Canada, according to their statistics. Exports of goods from Canada to Belgium consigned to Antwerp, or to the Netherlands, consigned to Rotterdam, are only included in the import statistics of Belgium and the Netherlands if the goods are released there for home consumption. Otherwise they are recorded in the statistics as intransit trade. There is little doubt that a large proportion of these intransit goods eventually reach Germany.

Another factor in this "origins" and "destinations" problem is that a proportion of exports from Canada to overseas countries are shipped via the United States, and similarly some exports of United States origin find their way to overseas markets in transit through Canada. European countries are inclined to credit the former in their import statistics to the United States and the latter to Canada.

A detailed comparison, item by item, of Canadian export and German import statistics is practically impossible since the two classifications are not identical.

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No. 64. Sun. Dec. 3, 1939 -- Farm Family Living Expenditures

How the folk on the farm are getting along is of concern to everyone in Canada, for agriculture is our basic industry. It means food, as well as other things that are necessary for our comfort; indeed, almost for life itself. Our whole social structure is built around the farm in very large measure.



The Dominion Bureau of Statistics last year made a survey of farm living expenditures, somewhat similar to the survey of 1934. This makes possible a notion of the relative economic position of families in these two years.

Farm living expenditures per person averaged approximately 50 per cent higher for families in the 1938 survey, than for those in 1934. Provincial differences ranged from increases of 65 per cent and 62 per cent for families in Manitoba and Ontario respectively, to 43 per cent for those in Saskatchewan and Alberta. Harvests for 1937 in the last two provinces were poor, but comparatively good in Ontario and Manitoba. Per capita advances in farm living expenditures for households in Quebec and the Maritimes averaged 58 per cent and 51 per cent respectively. The foregoing percentage differences represented increased cash outlays per person of \$68 for Ontario families, \$56 and \$50 for Manitoba and Alberta families respectively, \$44 and \$43 for those in the Maritimes and Saskatchewan, and \$34 for families in Quebec. Since average farm living costs advanced less than four per cent between 1934 and 1938, it is evident that these increases point to a material improvement in living levels during this period. The year 1934, of course, was one of unusual stringency for farm families generally.

Expenditures for the principal items of the family budget contained some noteworthy differences in these two years. The more basic requirements of food and clothing experienced only a slight advance in the amount of actual expenditure per person. In 1934 Ontario farm households spent 28.3 per cent of their total living expenditure on food, while in 1938 the proportion dropped to 18.6 per cent. Corresponding percentages for Manitoba were 25.7 and 19.3.

Clothing expenses showed a very regular advance in all provinces, with an average increase of \$6 per person. In no province was there an advance of less than \$5 and in none was it greater than \$7. As in the case of foodstuffs, the increase in clothing expenditure was at a much less than proportionate rate as compared to the rise in total living costs. Clothing expenses for Ontario households in 1934 accounted for 22.2 per cent of total living expenditures, and in the later survey this amount dropped to 16.3 per cent. Families in Saskatchewan and Quebec showed the least declines in the proportions of expenditure on clothing.

Fuel purchases per person showed very little change during the four-year interval, but in relation to the total living budgets of the families, they registered a noticeable decline. Proportions of expenditure spent for fuel dropped as much as nine per cent for families in Saskatchewan, and as little as two per cent for those in the Maritimes.

Expenditures for household furniture and furnishings advanced fairly consistently in all provinces. This was observed also to a lesser degree in the case of health care. Proportions of total family expenditure for furnishings registered a slight advance among families in Ontario and Quebec, but were relatively stationary in other provinces. Proportionate amounts spent on health were fractionally lower in most instances, but in no province was the decrease greater than three per cent.

The remaining items of the family budget comprised of such expenses as transportation, recreation, life insurance, community welfare, gifts, etc., experienced the greatest advances from 1934 levels. A combined grouping of these items disclosed expenditure per person averages in 1938 more than double those reported by families in the earlier survey. For example, per person expenditure for this miscellaneous group averaged \$22 among Ontario families in 1934 and \$63 in 1938. These figures represented a shift from 19.5 per cent of the family budget to 42.1 per cent.

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No. 65. Mon. Dec. 4, 1939 -- The Grain Crop

The grain crop of 1939 is estimated by the Dominion Bureau of Statistics at a value of about \$636,000,000. This represents the average prices received by farmers up to the end of November and has been determined by the Bureau after consultation with the Provincial Departments of Agriculture. Several of the crops, such as mixed grains, turnips, fodder corn, etc., are almost wholly utilized on the farms on which they are grown.

The grain crop this year is about \$91,000,000 higher than that of last year and is the highest since 1930, when it was \$662,000,000.

The 1939 wheat crop is valued at over \$251,371,000, representing an increase of almost \$46,000,000 as compared with the 1938 valuation. Although this year's crop is almost 129 million bushels greater than last year's production, the average farm price received has declined from 59 cents in 1938 to 52 cents per bushel in 1939, accounting for the relatively modest increase in the farm value of the 1939 wheat crop.

While oats and barley production were very little changed from a year ago, an improvement of three cents in the farm price for oats and of four cents in the price for barley resulted in gains of over \$16,429,000 and close to \$5,000,000 respectively in the values of these crops.

Both the production and average farm prices of rye and flaxseed were better this year than in 1938. The gross values of rye production in 1939 at \$5,727,000, and of flaxseed production at about \$3,000,000, were almost double the value of these crops in 1938.

The average farm price of potatoes from the 1939 harvest is estimated at \$1.08 per cwt., as compared with 92 cents for the 1938 crop. Although 1939 potato production is slightly below that of 1938, an increase of almost \$5,000,000 in the value of this crop is shown, because of the improved price. Other field crops including peas, beans, mixed grains, corn for husking, turnips, hay and clover, alfalfa, fodder corn and sugar beets show increased valuations this year. Only buckwheat and grain hay have slightly decreased values because of small decreases in the estimated production of these crops this year.

The total gross value of field crop production in Canada in 1939 is 17 per cent greater than that of 1938. The increase in 1939 was shared by the individual provinces, with the exception of Alberta. The total 1939 value of the principal field crops in Alberta shows a reduction of four per cent as compared with 1938. In this province, the 1939 wheat production was very little larger than in 1938, and the decline in the Alberta farm price of wheat from 58 cents last year to 51 cents a bushel this year resulted in a lower valuation of the wheat crop. On the other hand, the total value of field crops in Saskatchewan shows a gain of 63 per cent in 1939 as compared with the previous crop year. The considerable increase in Saskatchewan wheat production far more than offset the effect of the lower price this year. Heavier production and generally better prices for the other field crops in Saskatchewan also helped to raise the total value of production. Substantial gains ranging from 13 to 16 per cent are shown for the value of field crops in the Maritime Provinces and in Ontario. The increase in Manitoba amounted to eight per cent, while Quebec and British Columbia each show gains of six per cent.

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No. 66. Tues. Dec. 5, 1939 -- Range Finder in Defence

Here is some topical information that will be useful, especially to those of a mathematical turn of mind.

For harbour and all sea-coast defences measuring devices are essential to estimate the range of approaching enemy ships. Having regard to the high speed of approach and the long range of naval guns, the device must be capable of accurate ranging in minimum time to permit of maximum use by the defence.

Such a device is the depression range finder. Set up in an elevated position on the shore and connected electrically to the concealed battery, its results can be automatically recorded and corrected for the battery position. Its operation is simple and consists in alignment upon the object for direction and measuring the angle of depression that the water line of the enemy craft makes with the horizontal at the finding station. Essentially the range is given by the solution of a right-angle triangle, in which the height above sea level is the base which together with the measured depression and a right angle at the base give the three parts of a triangle necessary to calculate the range. This is done instrumentally by means of a scale incorporated in the range finder, that is the range in yards is read directly.

The ray of light from the object is not straight but curved and usually bent upwards. It is always bent towards the denser layers of air along its path, thus a correction has to be applied to the range depending on the time of day, temperature and barometric pressure. Another way of saying this is that the coefficient of refraction varies and a knowledge of this variation is essential to accuracy in defence.

Through its triangulation system the Geodetic Service of Canada has obtained values of the coefficient throughout the country and along the sea coasts. It is usually a minimum near noon or at maximum temperature, and is greater for areas over water than over land. The laws of its behaviour are well known and the rate at which the temperature changes with height is most significant. Its prediction depends on a long series of observation at the place under consideration. It has been definitely established that for certain areas the coefficient is higher, or more bending of the light ray occurs, on the Pacific than on the Atlantic coast.

Other manifestations of refraction are the loom of elevators on the prairies, mirages of lakes in arid regions and in general what may be termed looming of the land features, thus permitting one to see farther than usual. Under the same conditions, to the seaman, promontories and lighthouses appear much higher and can be used as range marks, thus ensuring greater safety in navigation. This occurs when the coefficient of refraction is above its normal value. An extreme case occurs for lower than normal values when the ray is bent downward, thus we might see a ship and above it its inverted image, the ship finally disappearing on the area horizon with its funnels down and its hull up.

Glass mostly for educational and scientific equipment comes mainly from the United States, Great Britain and Germany, and our imports run up to about one million dollars annually.

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No. 67. Wed. Dec. 6, 1939 — The Lady Tweedsmuir Libraries

A new source of books for the drought areas of the Prairie Provinces was established in the autumn of 1936 under the personal direction of Her Excellency the Lady Tweedsmuir. It had its origin in the donation of books by herself and Lord Tweedsmuir, and to these were added gifts of money and books from organizations and interested individuals, making it possible to distribute 25,000 volumes by the end of 1938, according to the Education Branch of the Dominion Bureau of Statistics.

The books are selected personally by Her Excellency at Ottawa, whence they are transported free by the railways, usually to a central distributing agency in each of the three provinces, or a fourth in the Peace River area. From these centres they go, in parcels of from ten to fifty books, to the communities in need of them, the parcels being exchanged between communities from time to time.

Study groups are developing about the libraries in some instances. Over 5,000 volumes have been sent directly from Ottawa to small groups in isolated areas. Nearly 6,000 children's books have been issued to schools, mainly in Saskatchewan where the need is said to be great.

Several hundred dollars have been contributed to the plan by the Carnegie Corporation and other donors, but the books have in the main been collected from private individuals, clubs, schools and institutions in Eastern Canada, the United States, England and Scotland.

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No. 68. Thurs. Dec. 7, 1939 — Chesterfield Inlet Rescue

A thrilling story comes through the air out of the far north. An intrepid Canadian airman a few days ago brought a sick missionary down from Repulse Bay to Chesterfield Inlet in one hop. Repulse Bay and Chesterfield Inlet are away up in the District of Keewatin. The former is just on the Arctic Circle, and the latter is a flight of approximately 250 miles south.

Rev. Father Bullaird, a French missionary among the Eskimos, had his hands frozen and Capt. William Catton, a well known Canadian pilot, made a mercy flight from Lac du Bonnet, Manitoba, to Repulse Bay, over 1,200 miles away. The missionary is being taken care of at Chesterfield Inlet.

At Chesterfield Inlet there is a modern hospital owned by the Oblate Fathers and operated by the Grey Nuns of Nicolet. Dr. John Melling, official medical officer for the North West Territories, is located there. From there the suffering priest was taken to Churchill.

There is a population of 704 persons at Chesterfield Inlet, according to the last census, and of these the number of Eskimos is 657.

The North West Territories have a strong fascination. A vast district of romance, some of the greatest adventures of ancient and modern civilization, not all as yet uncovered, have occurred there.

The population of that great region was slightly less than ten thousand persons at the 1931 census, of whom 3,716 were Eskimos. Thus there are only about one thousand of other origins, as follows: English 296, Scots 215, French 215, Dutch



six, Finnish four, Polish four, and so on.

The church affiliations of the North West Territories are: Roman Catholics 3,932, Anglicans 3,352, Protestants 361, Christians 182, United Church 94, Lutherans 64, Baptists 18, Greek Orthodox five, Jews two, etc.

Mining developments in recent years will probably have changed the population statistics considerably. This we shall learn definitely at the 1941 census.

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No. 69. Fri. Dec. 8, 1939 -- Vessels That Visit Us

The losses at sea which have occurred to British and neutral shipping, due to mines and the submarine, prompt the question as to what and whose ships bring the commerce of the nations to Canada.

The ensigns of 26 nations were seen in Canadian ports last year on cargo vessels that carried goods to the Dominion. In all, there were 27,500 sea-going ships. Of course, some came more than once. The total tonnage of these ships was 31,353,871.

The British Commonwealth supplied by far the greatest contribution, 13,579 ships or visits of ships out of the 27,500, with a tonnage of 20,778,040. That reflects the British sovereignty in ocean carrying across the seven seas. Of those 13,579 British ships, 13,841 were of Canadian registry and 4,738 British.

Whose vessels came second to the British Commonwealth in visits to Canada can be made a matter of argument. The United States sent 6,041 and Norway 1,442, but the United States vessels were smaller with a tonnage of 2,823,653 while that of the Norse carriers was 3,003,238.

The German vessels, numbering 305 with a tonnage of 955,307, were definitely in fourth place, and Japan came next with 134 of a tonnage of 771,549.

Then follow vessels of other nationalities in alphabetical order: Austria one at 2,725 tons, Belgium two at 3,860, China two at 7,272, Denmark 260 at 533,657, Estonia four at 5,968, Finland 28 at 51,853, France 97 at 187,943, Greece 150 at 431,153, Honduras three at 4,985, Hungary six at 16,332, Iceland 13 at 7,420, Italy 46 at 147,475, Latvia three at 3,045, Manchoukuo four at 15,575, Netherlands 153 at 690,918, Panama 12 at 49,266, Poland and Danzig 30 at 229,902, Portugal two at 682, St. Pierre nine at 530, Sweden 162 at 404,460, Yugoslavia 34 at 122,063.

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No. 70. Sat. Dec. 9, 1939 -- Shipbuilding in Canada

We still look back upon the great days of the clipper ships as the proud era of shipbuilding in Canada, when our wooden vessels were everywhere that wind and water would carry them and Canadian mariners, particularly from the Maritime Provinces, were famous for their skill, endurance and daring. They had appearance, too, those big, bronzed, bearded men who had much of Highland, Lowland, Hanoverian and Norse blood coursing warmly through their veins.

We have thoughts that those days are gone forever, but there comes a note from

the ancestral lands across the sea saying that ships are wanted more now than they were from this country and that soon our shipyards will be busy and the sound of the rivetter strike staccato on the air.

But even now, or rather before the war-monsters became a menace to our civilization, we have been doing some shipbuilding. Our thoughts turn at once, do they not, to the Bluenose. We glory in that fine schooner. It is ours.

Last year there were built in Canada 285 steam and motor ships. Yarmouth on the southern tip of Nova Scotia built no fewer than 66 of them and Canso 31. These alone make quite a fleet. New Brunswick, Prince Edward Island and Quebec did their bit, which is a reminder that at Quebec City a fine new ice-breaker is on the stocks. Some of our older folk will remember Canada building an ice-breaker for Russia.

The ten ships built at Quebec last year had a tonnage of 3,098, which is not so small. There were 23 built in Ontario.

When we think of the Prairie Provinces, wheat looms up before our mind's eye, but mark well, there were nine of those ships powered by steam or motor built at Winnipeg last year. However, we must then go right out to British Columbia to get more. The Pacific Coast turned out 64, of which 27 were launched at Vancouver, 21 at Victoria and 10 at Prince Rupert. Nova Scotia, of course, was in the lead with 147.

Besides the steam and motor vessels, we built 32 ships under sail, with a tonnage of 6,750. Altogether the tonnage last year was over 20,000. We sold 21 ships to other countries.

It would be well to keep these figures in mind, and see a year or two hence what difference there may be.

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No. 71. Sun. Dec. 10, 1939 -- Amazing Growth of Pond Trout

We haven't had very much about fish lately. So a devotee of Izaak Walton writes. Well, here is something that will interest the anglers and make a very informative lesson for all of us. It is the result of a study by the Fish Culture Branch of the Dominion Department of Fisheries. It proves that environment plays an important part in the life of fish, as it does in humans. The story comes from Coldwater, Nova Scotia.

Sample speckled trout fingerlings ranging from a shade over  $5\frac{1}{2}$  to  $6\frac{1}{2}$  inches, taken from a group of trout which began to feed in the rearing ponds on May 7, show a surprising development made between May and October.

Studies of speckled trout in their wild state by some other fish culturists made some years ago resulted in the conclusion "that the evidence at hand seems to show that speckled trout increase in length at about the same rate in three different types of habitat, viz., a cold Chara pond, a warm hard-water river, and a Laurentian lake."

Average size of speckled trout examined during this observation showed: trout in their first year 2.0 inches; second year 4.8 inches; third year 7.5; fourth year 10.5; and fifth year 13.5 inches.



The Coldbrook trout, then, after they had been feeding for about five months in the rearing pond were almost as large as the wild trout checked in the observation, when they were 27 months old. In other words, it took the wild trout five times as long to reach the seven-inch size in their natural habitat as it took the Coldbrook trout to attain the same size in the rearing ponds.

While in the ponds the Coldbrook trout were fed in the normal hatchery manner on a diet of liver, beef hearts, and plucks. Their rapid development under rearing pond conditions and feeding gives evidence of the value of this type of fish culture in maintaining Canada's fish population, which is, after all, the object of all fish cultural experiments and activity.

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No. 72. Mon. Dec. 11, 1939 — Wool in War Time

One of the great difficulties that a peaceful country like Canada ran into when war was declared was to clothe the soldiers adequately and speedily, and some information as to the facts of the situation seems to be worthwhile. For Canada is a wool importing country. Most of the wool we require at all times we have to get from abroad, notably from Australasia. Normally we import about 10 million pounds of raw wool alone, apart from yarns, etc.

An immense amount of wool, however, was required at once and the Canadian wool dealers and manufacturers turned over large stocks of their wool to the Government. The statement was made that the prices charged were fully 15 per cent below market value.

Large woollen manufacturers in Canada mobilized the entire industry to meet emergent conditions, and Canadian troops are now being supplied quality equipment, well fitting, and all manufactured in Canada. Less than two weeks from contracts to deliveries, the Canadian soldiers and airmen had khaki and blue uniforms. Manufacturers are busy on production of over one million yards of uniform cloth, hundreds of thousands of wool blankets, underwear and hosiery.

An official publication says: "There has been an acute shortage of hand-knitting yarns due mostly to the tremendous demand that came immediately on the outbreak of war. Unquestionably there was a bit of forward-buying on the part of many women over-anxious to do their bit for the soldiers. But this situation is being met successfully and without much disturbance."

Sheep raising dates back 2½ centuries in this country, when the French Canadian settlers found their supply of wool from Europe cut off by Queen Anne's War. Given permission to keep sheep, they spun their own yarns, wove cloth and made clothing. Perhaps the present war will have a stimulating effect on this oldest and most picturesque of our Canadian industries.

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No. 73. Tues. Dec. 12, 1939 -- Crab Fishing

Canada's crab fishing is confined mainly to three provinces, British Columbia, New Brunswick, and Prince Edward Island, with the western province contributing the major portion of the annual catch. Crabs are also found in some Nova Scotia waters but there is little fishing for them.

In British Columbia waters crab fishing is carried on by either one of two methods -- the use of wire pots or traps and the use of what are known as ring nets. The pots are devices made of wire with entrances at the ends through which the crabs find access. The traps with bait inside are dropped to the sea bottom and pulled up from time to time for examination, and emptying if luck is with the fishermen. Ring nets consist of a metal hoop with mesh attached. Like the pots, they are fished on the sea bottom with bait in the centre of the mesh. Buoyed at the top they are fished by being raised quickly at intervals, thus trapping any crabs which have been feeding on the bait.

The major portion of Canada's crab catch is used fresh, the rest is canned. In British Columbia, where most of Canada's crab canning goes on, the first step in preparing the crabs for canning is the removal of the backs and cleaning of the crabs by hand. The crabs are then cooked for fifteen minutes in fresh water. After cooking, "pickers" remove the crab meat, keeping the leg and body meat separate.

Cans enamelled on the inside are used for packing and a parchment liner is placed in each can before filling. A layer of leg meat is placed first in the can, then a layer of body meat, and finally a second layer of leg meat on the top. After the cans have been checked individually for weight, salt is added. The cans are then closed with a clincher, and pass through an exhaust box and double seamer. After the pack is processed for fifty minutes at 242 degrees Fahrenheit.

Canada's crab catch in 1938 totalled about 9,700 hundredweights, of which 5,900 hundredweights were used fresh. Marketed value of the total catch was \$55,300. British Columbia produced nearly 8,000 hundredweights of the total take and the British Columbia crab catch as marketed accounted for some \$54,600 of the aggregate value.

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No. 74. Wed. Dec. 13, 1939 -- Civil Aviation in Canada

Aviation in Canada is destined to make great developments, but particularly in the near future in the direction of training men for air warfare. However, there is a good deal of commercial aviation in Canada, and some facts concerning that branch of activity may be enlightening.

During 1938 there were in the Dominion 123 airports of all types, of which 35 were private, and there were 471 licensed civil aircraft of all types. There were 226 commercial pilots, 165 limited commercial pilots, 130 transport pilots, 734 private pilots, and 643 air engineers. The number of aircraft flights made was 207,788 and the average flight duration was 38 minutes.

The total passengers and crew carried was 195,430 and the total freight or express was 21,705,000 pounds. The total mail carried weighed 1,902,000 pounds. The paying passengers numbered 104,117 and the non-paying 35,689.



The investment in civil aviation in Canada as at 1938 was \$8,307,000, of which \$5,267,000 was for the aircraft. These figures include the Trans-Canada Airlines.

Besides the carrying of freight, passengers and mail, the civil aircraft of Canada have rendered other valuable services. There were last year a number of mercy flights; also 13,000 square miles of territory sketched and 59,000 square miles photographed vertically. About 43,000 square miles were sketched obliquely. More than that, 368 forest fires were detected from the air and reported.

There were 17 deaths as the result of accidents, and of these seven were passengers.

A large part of commercial passenger and freight traffic is in connection with mining operations in northern districts where previously the means of transportation was canoe in the summer and dog sleigh in the winter. The numerous lakes in most of the northern mining areas provide landing surfaces in the summer for aircraft equipped with floats and in the winter for aircraft equipped with skis. In Quebec and Ontario the distances from the railways to the mines are not great, but in the western provinces and in the North West Territory some of the distances are hundreds of miles. The air line distance from Waterways on the Northern Alberta Railway to the radium mines on Great Bear Lake is around 700 miles, and the mail route from Fort McMurray to Aklavik at the mouth of the Mackenzie River is over 1,400 miles.

In 1938 there were eight firms manufacturing aircraft in Canada. These firms exported aeroplanes and parts to 14 countries. The following were the leading purchasers: Turkey \$1,903,000, Hong Kong \$591,000, United Kingdom \$87,000, Japan \$44,000, Venezuela \$42,000, Nicaragua \$35,000, Uruguay \$30,000, Argentina \$27,000, San Domingo \$14,000, United States \$12,000, Portugal \$5,000, Yugoslavia \$3,000.

In 1937 Canada sold Argentina aeroplanes and parts to the value of \$149,000, Portugal \$31,000, United States \$25,000, China \$14,000, Yugoslavia \$18,000. The export of aeroplanes and parts rose from \$265,000 in 1937 to \$2,799,000 in 1938.

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No. 75. Thurs. Dec. 14, 1939 -- Changing Styles in Gas Masks

Great Britain's Royal Society of Arts informs us that the gas mask dates back to 1825, when it was invented by a miner named John Roberts, who earned through it a silver medal and £50. This simple mine labourer, interested only in the safety of his comrades below the surface, little realized the important role his gas mask was to play in the civilized world almost a century later.

The first gas mask consisted of a leather hood completely enveloping the head and rendered airtight at the neck by straps and a packing of wadding. The hood had two eye-holes, protected by glass or mica, and a breathing tube, the orifice of which was filled with moist sponge and covered over by a coarse woollen cloth, the former intended to absorb harmful gases and the latter to eliminate solid particles such as those of smoke. As a further protection against smoke, which was the primary object of the first gas mask, the breathing tube was extended in a sort of trunk which hung down almost to the ground, where the air is always freer from smoke.

The modern counterpart of this century-old respirator is exactly the same in principle as the original. While the Canadian public knows little about gas masks, it is reassuring to know that certain people in the employ of our federal government

know how to make them, assemble them and test them. They are doing this every day. Gas masks are assembled in one of the government's inspection depots under the eyes of men and women trained to catch the slightest defect. A mask has just one purpose to save a life. If it is defective when the test comes, a life is not saved.

Actually the parts of the mask are made in different Canadian factories. The rubber breathing tube comes from a rubber factory, the air-tight goggles are made in optical plants and the web straps and fittings in other places.

All parts come to one inspection depot where they are tested individually. Then they go through an assembly line, coming out completed masks, except for the chemical filter which takes the poison out of gas-laden air.

Officials say the rejects on parts of gas masks are small once manufacturers get into production on them. There is no fooling with a rejected mask. If it fails to pass inspection it goes to the junk pile. Never does it go back for fixing up.

In the army every mask gets a further test when it is issued to a soldier, who puts it on and enters a chamber filled with tear gas. This test also gives the wearer confidence in his appliance, because he is also given a taste of tear-gas without the mask.

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#### No. 76. Fri. Dec. 15, 1939 -- Hydro-Electric Progress

Canada's hydro-electric industry continued to make progress this year. New water-power installations aggregated 97,040 horse-power, which brings the total for the Dominion at the end of the year to 8,289,212 horse-power.

Extensions to existing stations in Saskatchewan, Ontario and Quebec, amounting to 87,441 horse-power, made up the greater part of the increase. New developments included a 3,300-horse-power plant of Consolidated Mining and Smelting Company Limited at Wellington Lake in northern Saskatchewan; a 2,000-horse-power plant of Berens River Mines Limited on Duck River in Northern Ontario; a 1,500-horse-power plant of Ontario Paper Company Limited on Black River near Heron Bay in Northern Ontario; a 999-horse-power plant of Gananoque Electric Light and Water Supply Company Limited on Cataraqui River, Ontario; a 700-horse-power plant of La Sarre Power Company on La Sarre River, Quebec; a 600-horse-power plant of the Town of Bridgewater on Petite Riviere, Nova Scotia, and a 500-horse-power development of the Nova Scotia Power Commission on Barrie Brook, Nova Scotia.

In addition to the installation of new generating capacity, considerable activity took place in the extension of transmission and distribution facilities in many parts of the Dominion. There was, as well, a substantial increase in the demand for power, reflecting steady growth in domestic use and increased activity in mining, pulp and paper and many other industries.

All time records of electric energy production were established when the output of central electric stations for each month of 1939 showed an increase over the corresponding month of 1938, and for the ten-month period January-October an aggregate increase of more than nine per cent was recorded. Canada's hydro-electric industry appears to be favourably situated in most areas to meet increasing demands for power.

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No. 77. Sat. Dec. 16, 1939 -- Sheep in Canada

Canada can hardly be described as a great sheep-raising country. There are only about 3,600,000 head in the Dominion. Australia, with about half the population of Canada, has 113 million sheep. It is the greatest sheep country in the world. India comes second with 94 million sheep and goats. We have very few goats in Canada, comparatively speaking.

There are several obvious reasons why sheep-raising has not so great an appeal for the Canadian farmer as the raising of swine, but one reason has been stressed recently by the Department of Agriculture. It is the menace of the prowling dog.

Many sheep breeders in Canada are of the opinion that it is practically impossible to raise sheep profitably on account of the large number of dogs which are allowed to run at large. This they consider is serious in a country that uses more wool per capita than any other country and which in war time finds itself under the necessity of importing large quantities of wool for war contracts and for general use.

One farmer in Ontario reports losing 16 head of sheep killed by dogs in one night, another 11 head and others smaller numbers. As a result of the menace from dogs there has been a reduction of 75 per cent in the number of sheep raised in one district in which sheep are regarded as the best paying class of live stock. A similar statement might be made by groups of farmers in many sections or districts of the Dominion.

Unless something is done to lessen the danger from dogs it is certain less sheep will be raised. Such a condition might not be regarded as serious in normal peace time but with a war on, when wool is one of the most important agricultural commodities used exclusively for soldiers' clothing, it is very dangerous. Then there are possibilities of lamb being required much more extensively in Canada to replace either bacon or beef.

Sheep raisers throughout Canada are urging that legislation to deal with the menace be considered as a war time necessity by the Provincial Legislatures, so that more sheep and wool may be produced.

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No. 78. Sun. Dec. 17, 1939 -- Empire Air Training Schools - 1

A momentous announcement was made over the radio this evening by the Prime Minister, Mr. Mackenzie King. He told of the British Commonwealth air training plan and foretold an opportunity for many thousands of young Canadians to serve the Empire in the Air Force.

While the exact number or even the approximate number of skilled airmen to pass through the giant university of the air being set up in Canada must remain a military secret, Mr. Mackenzie King went so far as to say it would be many thousand.

A few weeks ago Lord Riverdale, head of the British air mission which negotiated the Empire air training agreement here with the governments of Canada, Australia and New Zealand indicated 25,000 to 30,000 men might be trained in Canada for the Empire's fighting air services each year.

The size of the training system outlined by Mr. Mackenzie King tonight

indicates Lord Riverdale was not exaggerating. For some 67 training schools will be established in Canada, including three large schools for initial training, 16 service flying schools, 10 air observer schools, 10 bombing and gunnery schools, two air navigation schools and four wireless training schools.

To staff these schools no fewer than 40,000 men will be needed, including 6,000 civilians, 2,700 commissioned officers and thousands of airmen for ground work which would include the maintenance and servicing of aircraft. Some 20 existing air fields must be enlarged and some 60 new ones constructed.

For the duration of the war or the term of the agreement, something over three years, the training establishment of the Royal Canadian Air Force will be merged in the Empire training scheme which centers in Canada.

The scheme, in fact, will be a Canadian proposition, largely financed by Canada, exclusively managed by Canada and to a great extent manned by Canadians both in its student, instruction and administration personnel. It will probably be Canada's major contribution to the Allied cause in the war against Hitlerism.

Within the next few months scores of Canadian towns and cities will bustle with aviation activity. Barracks will be erected, landing fields, and hangars constructed, aircraft and supplies of all kinds shipped in. Men in the airforce blue will be hard at work perfecting themselves and others for the supreme tests of skill and daring which come with active service in the air.

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No. 79. Mon. Dec. 18, 1939 — Empire Air Training Schools - 2

The training contemplated is for pilots, observers and air gunners. The starting point will be three large initial training schools where a four-weeks course will be given. Into these schools will go all men accepted for flying training. There they will receive the primary military training which under the present scheme constituted part of the ground course given after the elementary training at the flying clubs.

At the end of this four weeks' course the men will be sorted out according to their adaptability; some will be rejected altogether or given an opportunity to proceed into some non-flying duties. The rest will be divided up according to their adaptability as pilots, observers and air gunners.

The students selected to proceed as pilots will enter an elementary flying school for the course now given in the flying clubs. Whether this work will continue at the flying clubs or in new schools remains to be seen. A considerable number of these schools will be needed. The course will be eight weeks.

Pilots completing this satisfactorily will then spend 14 weeks in one or more of 16 service flying schools where they will receive their intermediate and advanced training.

Air observers after their initial training will pass through air observer schools, bombing and gunnery schools, for they must aim the bombs and be able to handle machine guns, and air navigation schools, for one of their duties is the navigation of the aircraft.



The air gunners will be wireless operators as well, and from the initial training school will pass through one of four wireless training schools. The wireless course is the longest of all, 16 weeks. From it they will proceed to the same bombing and gunnery schools as the air observers for a four weeks' course.

The time required to turn out a pilot or an observer is 26 weeks, for an air gunner, four weeks. Thus assuming the objective is a production of 30,000 trained men a year, the schools would have to accommodate 15,000 men at one time.

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No. 80. Tues. Dec. 19, 1939 -- Canadian Army Flag

It is announced officially today that the first Canadian contingent for overseas service in the war against Hitlerism had arrived in the United Kingdom and, when the veil of secrecy was lifted, the strapping young men of the Dominion were given a tumultuous reception. As the C. B. C. would say: "Further details may be found in your local newspapers."

But there was one announcement in connection with it that is of more than even war interest. The story was made public that the First Canadian Overseas Division had received a flag of its own. This flag is, of course, not only representative of the Empire, but it is distinctively Canadian as well. The new flag was delivered to Major-General Andrew McNaughton immediately prior to his departure from Ottawa.

This new flag has the Union Jack of Empire in its rightful place in the upper half next to the staff. Opposite it in the corner of the flag are three golden fleur-de-lys on a blue ground within a circle. In the lower half are three red maple leaves veined in green. All of these emblems are shown on a white field. The whole has been adapted from the armorial bearings of the Dominion as authorized by Royal proclamation in 1921.

The significance of the flag is obvious. The Union Jack and the Fleur-de-Lys represent the mother countries of Great Britain and Old France, and the Maple Leaves represent Canada. The banner has been approved officially for use by headquarters of the senior formation of the Canadian Active Service Force.

The manufacture of flags and bunting in Canada is quite an important business. A few years ago when depression was upon the land there was not very much incentive to flag flying and in 1935 the production value at factory prices was only about \$65,000, but when we became more cheerful and had a real good year in 1937 it went up to \$135,000. When the 1939 figures are completed they should be quite revealing, for there were more flags and bunting around when the King and Queen were here than were ever seen in this Dominion before.

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No. 81. Wed. Dec. 20, 1939 -- The Czechoslovakians

We in Canada are greatly interested in the Czechoslovakian people, not alone because of the tragedy that has overtaken their beloved country of Bohemia and Moravia, but also because there are very many of that race in Canada, and they enjoy a high reputation as good citizens.

There are probably about 50,000 Czechoslovakians in Canada today -- we do not know exactly. But there were more than 30,000 at the last census eight and a half years ago. The 1941 census will give us the new figures. Close to one-third of them were in Ontario and most of the rest in the Prairie Provinces. There were twice as many men as women. Considerably more than half of the Czechoslovakians were Roman Catholics, but there were also many Lutherans, United Church, Presbyterians, Anglicans, Greek Orthodox, Baptists, etc.

And so there was marked interest tonight in the special announcement by the Foreign Office in London that the British Government recognized the Czechoslovak National Committee as the representatives of the Czechoslovak peoples.

In a letter to Eduard Benes, the former president of the Czechoslovak republic, Lord Halifax, Foreign Secretary, said that all Government departments were advised "to afford all the requisite support to the committee in its activities."

The main functions of the committee are to organize the Czechoslovak army to fight alongside the Allies and rally the Czechoslovak peoples in the effort to remove the German armies from Czechoslovak soil and to regain the independence of the former Czech republic.

The decision to recognize the Benes committee was taken by the Supreme Allied War Council in Paris this week.

The committee has already declared "null and void" the agreement signed by Emile Hacha making Bohemia and Moravia a protectorate of Germany, and it does not recognize Slovakia as a separate state.

Mr. Benes will now proceed to conscript Czechoslovak nationals in France, the United Kingdom and other parts of the Empire.

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No. 82. Thurs. Dec. 21, 1939 -- Tobacco for the Soldiers

It has been quite noticeable around Ottawa, and no doubt also at other points from coast to coast, that a favorite gift for the soldiers is tobacco in one form or another, chiefly cigarettes. It is noticeable also that most of these gifts bear the statement that they have been made in Canada.

Now Canada, for all the rapid advance that is being made in the production of tobacco, is still very far behind many other countries in this business. In round figures, out of a world total averaging about five billion pounds, or approximately 2,232,000 long tons, we are producing about 45,000 tons.

The greatest grower of tobacco, in point of quantity, is China, and the amount is the enormous one of 624,000 tons. The nearest competitors are British India and the United States. India's figure is estimated at 605,000 tons and that of the United States at 520,000. In order to make the comparison more nearly correct, the 1936 figures are used -- except in the case of Canada, where the rapid expansion in the tobacco industry during the past three years is taken into account.

There is a wide gap between the production of the three leaders and that of the fourth, which is Soviet Russia, where production was placed at 272,000 tons.



Fifth is Brazil which is the largest producer in South America, with 92,000 tons. Then comes Japan, including Korea, their combined production being about 80,000 tons.

Greece is a small country but tobacco is a staple industry. Besides, Greece benefited by receiving some tobacco-growing territory from Turkey after the Great War. This crop is also placed at 80,000 tons. Turkey produces 73,000 tons and the Netherlands East Indies over 50,000.

With reference to the last country mentioned, it may interest readers to know that we have been asked officially not to refer any longer to the Dutch East Indies, but rather to the Netherlands East Indies. The old name of Holland in that historic European country is also going into disuse.

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#### No. 83. Fri. Dec. 22, 1939 -- Harvest Months

What is Canada's harvest month? A correspondent wants to know. The answer could be complicated, for there are many and varied crops to harvest.

However, our two great field crops are wheat and oats. Both bulk large in the national food bill, for both humans and the members of the animal kingdom. Wheat is more often brought to our notice because of its importance in world markets just as soon as it is harvested and threshed. The oat crop is also of vast importance because of its greater use as an animal food and therefore its value is seen more indirectly.

So the harvest month is generally reckoned as the month in which the bulk of the wheat crop is garnered. That is August, and the Canadian crop year begins on August the first. Wheat statistics are usually recorded by crop years.

August is also the wheat harvest month for such countries as the northern states of the United States, Central Russia, Poland and England.

Wheat harvest months vary throughout the world according to the climatic conditions which obtain. Take this month of December, for example. It is the harvest month of Australia and Argentina. The farmers there are busy men these days.

January brings along to maturity the wheat crops of New Zealand and Chile. In February the harvesters of India and Upper Egypt are gathering their wheat and their harvest runs into March. April brings India, Lower Egypt, Syria, Persia and Asia Minor into the picture.

May is the wheat harvest month of China, Japan, Central Asia, Algeria and Morocco, and these two countries produce great crops. June brings in the southern states of the United States, Italy, Spain, Southern France and Turkey.

July is the harvest month of the middle states of the United States, South Russia, Roumania, Bulgaria, Austria, Hungary and Germany.

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No. 84. Sat. Dec. 23, 1939 -- New Variety of Oats

The oat crop of Canada this year was 386 million bushels. Sometimes the harvest of oats is greater than of wheat, as reckoned in bushels, but this year the wheat crop was 479 million bushels. Of course, when weight is considered, it is a difficult proposition, for a bushel of wheat weighs 60 pounds and a bushel of oats 34. There are other comparisons which might be made in a round-table discussion, particularly if one of the party belonged to that race which stands staunchly for an oatmeal porridge breakfast.

However, the fact remains that Canadian oats have acquired a great reputation, not only for quantity but quality, and there is a constant effort to improve. Accordingly a report from the Department of Agriculture concerning a new variety of oats is of special interest. The report says:

Eagle oats were first distributed from the Dominion Experimental Station at Lacombe, Alberta, in the spring of 1937. They were introduced in a small experimental way to ascertain if they had the qualifications necessary to meet the need for an oat to grow on the rich black loams of the park belt of Central Alberta where standard varieties tend to lodge badly. Encouraging reports as to yield, quality of threshed grain, and strength of straw are being received from growers who are giving this variety a trial, says an official of the Experimental Station at Lacombe.

Eagle oats is a variety somewhat similar to Victory in appearance in the field, but is slightly earlier maturing and has a shorter and stronger straw than Victory.

Variety tests show that Eagle is a high yielding variety, being in the same class in this respect as Victory and other high yielding sorts. Many growers report that it out-yields any other variety they have ever grown. The kernel resembles Victory and makes an attractive sample of threshed grain.

Because of its shorter straw, the growing crop of Eagle may not appear as attractive as Banner or Victory, but yields of threshed grain usually exceed field estimates made in the standing crop by fifteen to twenty bushels per acre. Loads of oat bundles have given yields as high as seventy-five bushels per load.

Eagle oats are not resistant to rust, and for that reason it is doubtful if it would be wise to introduce them into areas subject to oat rust. On the other hand, rust has never been a problem in oat production in Central Alberta, hence the farmer who is growing commercial oats need not so far be concerned about rust.

Since the Eagle variety of oats has given a good account of itself in an experimental way and under actual farm conditions, it is suggested that growers who wish a variety that is likely to stand up well on new breaking or summer fallow in Central Alberta would be well advised to give this variety a trial.

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No. 85. Sun. Dec. 24, 1939 -- A Christmas Message

Christmas Eve, and it is Sunday as well. Deep down in the old morris chair that nobody else covets, because the springs are gone, and gazing into the blue flames that are blazing in the ingle from a maple stick, do not one's thoughts turn to the War and the boys who are so bravely facing the enemy in defence of our



hearths and homes? Surely they must. The atmosphere is full of it. There is a pall upon us.

Here is something from a little booklet that came in the mail from a friend, and if it is not quite a statistical Fact, it certainly is one which is at the very base of the changes in statistics that war or peace brings. The booklet contains the thoughts of President Roosevelt of the United States, the Earl of Athlone, uncle of King George, Senator Harry S. Truman of the United States, and Rear-Admiral Richard Byrd, of the United States Navy. Admiral Byrd is the famous Antarctic traveller and explorer, you will remember.

Earl of Athlone: "Throughout her long history this country never failed, and has not failed now, to meet recurrent crises with the courage which each demanded. But the spiritual crisis remains and calls for action. Nation and Empire must stand or fall by our response to that call."

Senator Harry S. Truman: "The battle is for a new world, a world of peace and love. In every walk of life our citizens are awakening to those Christian virtues of honesty, purity, unselfishness and love which form the bedrock of national character and which enlist the citizens of a democracy in constructive national service."

President Roosevelt: "The underlying strength of the world must consist in the moral fibre of her citizens."

Rear-Admiral Richard Byrd: "I went exploring because I was fired by those pioneers of history who felt the urge of charting uncharted seas and discovering unknown places. However, today in the crisis which threatens to destroy freedom and civilization, the most important pioneering to be done is in the realm of the spirit. A country's first line of defence is the character of her citizens. Character cannot be taken for granted. If we are going to preserve freedom, it has to be battled for by every man, woman and child -- every day and every generation."

These are thoughts, are they not, that are apt at this season of the year and in the present crisis of our national life?

A Happy Christmas to you all!

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No. 86. Mon. Dec. 25, 1939 -- Christmas Day

This morning we were up early. Earlier than usual. Why? Because the junior members of the family were making much noise and clatter. They were busy over the Christmas Tree and acclaiming with shouts of glee the paraphernalia that Santa Claus brought down the chimney while they were asleep. They had vowed the previous evening they would remain awake to see him arrive, or at the very least to listen to the sleigh bells on the reindeer that had galloped him through the air from the faraway Arctic.

This is a fine old custom. The observance of a festival having the object of marking the turn of the year and anticipating the return of the season of light and warmth has been traced to Egyptian, Scandinavian, and early Roman sources; and, whatever its eventual origin may have been, the early Christian church took advantage of it to associate with the season their celebration of the birth of the

Christ-child, with His message of peace on earth and goodwill to men. Associated with this observance eventually came in the custom of giving gifts, especially to the children of the family -- in some countries through the medium of the Christmas tree.

Little known in England prior to the marriage of Queen Victoria to Prince Albert of Saxe-Cobourg and Gotha in 1840, the Christmas tree has steadily gained in popularity (especially since the introduction of safe electric lighting), and its vogue may now be said to be universal throughout the English-speaking world. To the children especially it means much, emblematic as it is of the happy spirit of gift-giving and of goodwill within the family and without. So great, indeed, is its emotional and inspirational value that the maintenance of the custom may well be worth some sacrifice from the material and conservational standpoint.

Although undoubtedly there are few who would wish to see the custom discontinued, like other good customs it has points connected with it that need to be safeguarded. The demand for the Christmas tree has led to a very active seasonal industry, the supplying of the trees to the markets of various Canadian and American centres -- an industry which is particularly active in the Maritime Provinces and Quebec, on the one side of Canada, and in British Columbia, on the other. In recent years lumbermen, jobbers, and farmers in many places in Canada have found in the cutting and sale of such small evergreen trees a steadily growing business, which finds customers not only on the North American continent but even in Hawaii, Bermuda, and Jamaica.

Canadian producers are now exporting almost six million of these trees, 99.7 per cent of which go to the United States. In addition it is estimated that about one million are used for home consumption. Canadian trees -- especially balsam fir and spruce from the Maritime Provinces and Quebec, and Douglas fir from British Columbia -- are particularly prized by American buyers because of their attractive form, bushy growth, and dark-green lustrous foliage.

The attitude of the general public towards the cutting of trees for Christmas use, however, still tends to be somewhat critical and uneasy, as reflected by articles in the press toward each year-end. As a conservation measure, many people would ban the use of Christmas trees; but in view of all the facts this idea of conservation seems extreme and even illogical.

The Christmas tree is a symbol of all that is best in our spiritual natures. We may, therefore, welcome its ever-increasing use, cherish the message of goodwill that it brings, and leave to the good sense and enlightened self-interest of our people the future guidance of the Christmas tree industry along sound and proper lines.

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#### No. 87. Tues. Dec. 26, 1939 -- Reindeer Steaks

Most of us had turkey for Christmas dinner yesterday, and today we have disposed of most of what was left after the traditional meal. Away up in the far north, however, there is not much turkey around, and the Eskimos have had in recent years a special fare of their own. It is reindeer meat, a comparatively new treat for the citizens of our Arctic regions.

The reindeer herds on the roof of the world, which are maintained by the Government, are increasing in numbers and quality. The superintendent of these herds has



been reporting personally to the authorities at Ottawa. He is on his first trip outside since 1927. Since his last visit south, cities are growing up, to wit Yellowknife, and there are more automobiles around, along with aeroplanes, radios and movie houses.

The reindeer provide food and clothing for the Eskimos, and it is the intention of the Government to gradually change some of these nomadic people into domesticated reindeer ranchers. One herd of some 1,000 reindeer is already under Eskimo management, and a number of young Eskimos are with the main herd, learning how to herd and care for reindeer so that some day they might tend their own small herds.

When the herd first came to Canada, the Government brought three experienced Lapp herders from Norway, but the Eskimos have proven such apt pupils that all but one of the Lapps have returned home.

The reindeer have some 650 square miles of grazing land along the bleak Arctic coast. They feed on grass and shrubs in the summer and paw aside the snow and eat Arctic moss in the winter. Every March, guided by some natural instinct, they migrate to Richards Island, some 150 miles from their winter feeding ground, and there the females give birth to their fawns.

The herd summers on the island, where the ocean breezes blow the flies away and the sea water provides the salt all animals must have at some time or other.

The herders work in shifts with two men on the job for a full 24 hours. Reindeer draw the sleds on which are packed the herders' tent, stove and supplies. A cross between a collie and a sheep dog aids the herders in keeping the animals together, and the herders' rifles keep the wolves at bay. Nervous and timid, the reindeer run for the herders' tent whenever they scent a wolf.

When the annual roundup is held in July, Eskimos come from scores of miles to make the event something of a festival. Reindeer are killed to provide a feast, and the Eskimos aid the herders in rounding up the reindeer and counting them.

Next big event after the round-up is the annual slaughter of some 300 or 400 reindeer, largely defective or infirm animals and some aged females. The meat is distributed to missions, hospitals and residential schools, and also to the needy Eskimo families.

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No. 88. Wed. Dec. 27, 1939 -- Rats in Canada

Last evening this writer went down to the cellar of his home to do some chores. A rat was endeavouring to climb into a metal garbage pail, although that accessory was well lidded. The beastly thing scurried for the back door and escaped into the snow before the poker was ready for its annihilation. A youngster had, as youngsters will, left the door not quite closed. Of course, if the rat had made up its mind to enter by the closed door, a very few minutes would have sufficed to gnaw a way.

To miss killing that rat was a little tragedy, for the rat is probably the worst of the enemies of man, outside of man himself in the guise of war lords. The Dominion Bureau of Statistics has no record of the number of rats in Canada, but there are statisticians who have a pretty fair idea how many there may be and how much direct damage they do.

It is estimated that there are 25 million rats in Canada from coast to coast and that they consume food to the value of 50 million dollars a year. The rat is also a destroyer of property.

As a menace to health the rat is a prodigious enemy. Disease carrying insects infest his body. Fleas, lice and mites, which thrive and multiply on him, are the great mechanical carriers of disease. The rat is the chief source and reservoir of human plague.

Rats are prolific. The family runs from seven to fourteen in number, and all sorts of contrivances and poisons have been requisitioned to keep the numbers down. The natural enemies we have in Canada to fight the rat are hawks, snakes, skunks, weasels, mink, dogs and cats. They congregate where food is plentiful that is why the storehouses on the farms and in the cities are especially troubled.

Read Robinson Crusoe for an excellent description of a devastating epidemic caused by rats.

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No. 89. Thurs. Dec. 28, 1939 — Lumbering in Canada

Canada's lumbermen are busy in the woods felling the trees. It is a great Canadian industry. The clearing of forest land was the primary step toward the settlement of Eastern Canada by the early pioneers. The material so removed was at first more than sufficient for building purposes, fencing and fuel. In many cases logs and clearing debris were burned in order to get them out of the way. Later on, inroads were made into the forest surrounding the farms and settlements to supply the needs of the growing population. Lumbering as a business developed gradually as the settlements extended; the demand increased and the supply receded. The industry which started in the Lower St. Lawrence valley and Maritime Provinces spread northward and westward during the period of rapid advance in settlement.

The Ottawa Valley became the first important centre of commercial activity in the industry with the rafting of square timber to Quebec for export. The Georgian Bay and Rainy River districts were later opened up, and although the industry is now established over the entire Dominion these two districts are still the chief lumbering regions in Eastern Canada. Lumbering to the north of the Prairie Provinces has progressed with the settlement of this region, but the production does not usually supply the local demand. Exploitation of the extensive forests of British Columbia proceeded simultaneously with similar development in the Pacific States across the border, and is steadily increasing in relative importance. In 1908 this province contributed less than 20 per cent of Canada's total lumber production while in 1937 this proportion was about 51 per cent.

The total forest area, including 41,637 square miles of forest of occupied agricultural land still forested, is estimated to be 1,223,522 square miles, and of this about 1,100,000 square miles is essentially forest land which can be utilized to the best advantage under forest. The accessible and productive forest area is estimated to be 769,463 square miles, of which 360,548 square miles carries timber of merchantable size and on 408,915 square miles there is young growth which if protected from fire will eventually produce merchantable timber. The remaining area of 454,059 square miles carries forests of value either because of their influence on water control, climatic conditions, game conservation, or by reason of their attraction to tourists, and their value as a source of wood for local use.



On account of their geographical location or because of unfavourable growth conditions the forests at present are considered as non-productive from a commercial viewpoint. As a result of the constant and inevitable improvement in conditions affecting profitable operation, much of this inaccessible timber will eventually become commercially exploitable. It is estimated that of the productive forest area 442,354 square miles are producing softwood or coniferous timber, 221,138 square miles, mixed softwoods and hardwoods and 105,971 square miles, hardwood or broad-leaved species.

About 136,974 square miles of forest land in Canada have been set aside in reserves, parks and experimental stations and permanently dedicated to forest production.

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No. 90. Fri. Dec. 29, 1939 -- Scientific Forestry

The practice of scientific forestry in Canada is at present largely in the experimental field. The Dominion and Provincial forest authorities and private companies controlling timber lands are chiefly engaged in the administration of existing forests and their protection from forest fire and other damage. Considerable experimental work has been undertaken, together with the work of segregating land capable of forest production but unfit for agriculture. The planting or reforestation that has been done has been chiefly in connection with farmers' woodlots or shelter-belts and only a small proportion can be considered as commercial forest. Natural reproduction which is generally prolific is relied on for the greater part of our forest area and only a small part can be considered as under scientific management with sustained yield as its object.

For a considerable part of the present forest area there is little reliable information as many regions have not yet been thoroughly explored. A national survey is being conducted by the Dominion and Provincial forest authorities which is throwing new light on many problems. In 1937 the total stand of timber in Canada was estimated to be approximately 273,656 million cubic feet, of which 222,076 million cubic feet was of coniferous species and 51,580 million cubic feet of broad-leaved species. Of the total stand it is considered that only 170,144 million cubic feet are accessible under existing means of transportation and values. This accessible timber includes 245,313 million feet, board measure, of saw-timber, of which 215,044 million board feet are softwood and 30,269 million board feet, hardwood. Smaller material, suitable for pulpwood, fuelwood, etc., is estimated to amount to 1,107 million cords, of which 789 million cords are softwood and 318 million cords, hardwood.

Of the total accessible stand, the Eastern Provinces have 67 per cent, British Columbia 18 per cent and the Prairie Provinces 15 per cent. Of the saw-timber, however, British Columbia has 47 per cent, the Eastern Provinces 45 per cent and the Prairie Provinces eight per cent.

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No. 91. Sun. Dec. 30, 1939 -- Operations in the Woods

Differences throughout Canada in soil, climate, topography, average size of trees, density of stands and numerous other local conditions give rise to differences in logging methods not only between provinces but between adjacent logging units in the same district. Generally speaking throughout Eastern Canada the climate is such that cutting and hauling logs can be carried on most economically during the fall and winter months.

The trees are felled and the logs hauled mostly on sleighs by horses to the nearest stream or lake where they are piled on the ice or sloping banks. Logging railways are also used, in some cases hauling the logs directly to the mills. Tractors and trucks are being substituted for horses in many operations. The nature of the topography,-- the presence of connected systems of lakes and streams, makes it possible in most cases to float the logs from the forest to the mill at a minimum cost during the annual spring freshets.

The logging industry east of the Rocky Mountains is therefore almost entirely seasonal. In many cases lumbermen co-operate in river driving operations. Improvement companies, financed by the logging operators, build dams, sluices and other river improvements to facilitate the passage of the floating logs, and tow the material across lakes and still stretches of river in booms or rafts. The logs, which carry the distinguishing stamp or brand of each operator, are finally sorted and delivered to their respective owners.

In British Columbia the scarcity of drivable streams and the greater average size of logs give rise to entirely different logging methods. Slides are built on suitable slopes to bring down timber from the upper hillsides and benches, logs are hauled and assembled by donkey engines and different cable systems or by tractors or trucks. Logging railways are used extensively to carry logs to the mills or to lakes, large rivers or tidewater where they can be assembled in booms or rafts and towed to the mills. The operations on the Coast not being dependent on frost, snow or freshet, are carried on in most cases throughout the entire year.

In Eastern Canada logging operations are usually carried on by the mill-owners or licensees of timber lands, often through the medium of contractors, sub-contractors and jobbers. In the better settled parts of the country a considerable quantity of lumber is sawn by custom sawmills or small mills purchasing logs from the farmers. Unmanufactured pulpwood, poles, ties and other forest products have a market value, but sawlogs being as a rule the property of the mill-owner are not generally marketed as such in Eastern Canada. In British Columbia logging is carried on more frequently as a separate enterprise by limit holders who cut and sell logs on the market. In many cases mill operators are not limit holders but buy their entire supply of raw material from logging concerns.

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No. 92. Sun. Dec. 31, 1939 -- The End of the Year

Today the year 1939 passes into history. It has been a year of outstanding events, a year which brought misery and death to many people in far lands. Canada herself is at war again in defence of human freedom, and it makes us very proud of this splendid Dominion.

We need not dwell upon that. There are bright spots shining through the gloom.



The Hon. William D. Miller, Minister of Trade and Commerce, who presides over the Bureau of Statistics, draws attention to some of them in an article he wrote today for one of our leading publications. He says:

The year just ended was one of the most momentous in Canada's history from the viewpoint of economic developments.

Our geographical position, abundance of raw materials and efficient industrial facilities enable to Dominion to contribute heavily to the successful waging of the present war. The rapid acceleration in economic activity after the commencement of hostilities is a measure of our capacity to provide supplies in support of the Allied cause. Raw materials are available in abundance due to the productiveness of our diversified natural resources and accessibility to supplementary supplies in the United States. For the four months following the outbreak of war Canadian exports were \$370 million, an increase of 14 per cent over the same months one year ago.

Even prior to September 3, industrial operations had recorded a marked gain over the preceding year. Agricultural interests were greatly favoured by the heaviest grain harvest in more than a decade. The administration's policy of negotiating reciprocal trade treaties had borne fruit as our commerce with other countries showed encouraging expansion. Despite the handicap of recurring European crises, economic progress was unmistakably maintained throughout the year.

The outbreak of war was a signal for a sharp increase in business activity. Operations were immediately speeded up as fears of future shortages brought increased demand. As consumers placed heavy orders and inventories were augmented against possible price advances, producers were unable to cope with demand at the existing levels of operation. Plants producing foodstuffs were among the first to benefit from increased requirements. The gain in steel production was spectacular, the output reaching in October a higher level than at any time since the last year of the first Great War. Both internal and external influences contributed to the industrial expansion. The preoccupation of British producers not only reduced imports, but also provided Canadian plants with greater export possibilities in neutral countries and other parts of the Empire.

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#### Notes:

A few months ago there appeared a statement in a Fact a Day showing the reduced numbers of the Canada Lynx. The Controller of the National Parks Bureau writes: "One fact in connection with the lynx population that is of greatest interest is that from earliest times the numbers of lynx have been known to fluctuate in a regular cycle, conforming to those of the varying hare, its chief food. Approximately every 10 years the hare population of Canada is almost wiped out by disease and a period of scarcity for hares and consequently for lynx ensues until the hare population has recovered."

In talking of tall men recently there was a slip. The Ghurkas were mentioned; this, of course, should have been the Sikhs.

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